



# Alcatel-Lucent OmniPCX Office Communication Server

## Installation Manual

Release 8.2 - May 2012



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The CE mark indicates that this product conforms to the following Council Directives:

- 2004/108/EC (concerning electro-magnetic compatibility)
- 2006/95/EC (concerning electrical safety)
- 1999/5/EC (R&TTE)



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## **Chapter 1** General Presentation

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<b>1.1</b>	<b>Preliminary</b> .....	<b>1.1</b>
1.1.1	Overview .....	1.1
<b>1.2</b>	<b>Security</b> .....	<b>1.1</b>
1.2.1	Safety rules .....	1.1
<b>1.3</b>	<b>Protection against Interferences</b> .....	<b>1.4</b>
1.3.1	Protection against Interferences .....	1.4

## **Chapter 2** Hardware: Platform and Interfaces

---

<b>2.1</b>	<b>Overview</b> .....	<b>2.1</b>
<b>2.2</b>	<b>Platforms</b> .....	<b>2.1</b>
2.2.1	OmniPCX Office RCE Compact .....	2.1
2.2.2	OmniPCX Office RCE Small .....	2.3
2.2.3	OmniPCX Office RCE Medium .....	2.4
2.2.4	OmniPCX Office RCE Large .....	2.4
<b>2.3</b>	<b>Installation</b> .....	<b>2.5</b>
2.3.1	Overview .....	2.5
<b>2.4</b>	<b>Equipment</b> .....	<b>2.6</b>
2.4.1	Boards and Options .....	2.6

2.4.2	Detailed description .....	2.7
-------	----------------------------	-----

---

## Chapter 3

### System Services

---

<b>3.1</b>	<b>Software Licence Management .....</b>	<b>3.1</b>
3.1.1	SOFTWARE LICENCE MANAGEMENT .....	3.1
<b>3.2</b>	<b>Software Keys .....</b>	<b>3.1</b>
3.2.1	Voice Services Available in "Limited" Mode .....	3.2
3.2.2	Software Key Change .....	3.3
<b>3.3</b>	<b>Detailed description .....</b>	<b>3.3</b>
3.3.1	Services controlled by the "Main" software key .....	3.4
3.3.2	Services controlled by the "CTI" software key .....	3.7
<b>3.4</b>	<b>Descriptions .....</b>	<b>3.9</b>
3.4.1	Introduction .....	3.9
3.4.2	Standard telephony .....	3.9
3.4.3	Alcatel Reflexes sets .....	3.9
3.4.4	Analog interfaces .....	3.10
3.4.5	Mobility .....	3.10
3.4.6	Call handling features .....	3.10
3.4.7	Networking .....	3.11
3.4.8	Internet access (relevant up to R7.1) .....	3.11
3.4.9	Web applications .....	3.11
3.4.10	SNMP .....	3.12
3.4.11	RAS (relevant up to R7.1) .....	3.12
3.4.12	Lan telephony .....	3.12
3.4.13	VoIP Gateway .....	3.12
3.4.14	Supplementary information .....	3.13
3.4.15	Music on Hold (MOH) .....	3.14
3.4.16	Metering .....	3.14
3.4.17	Languages .....	3.14
3.4.18	Pay Per User (PPU) .....	3.14
3.4.19	ACD .....	3.15



3.4.20	Managed services .....	3.15
3.4.21	Mobility on GSM .....	3.15

---

## Chapter 4

### Installation and Cabling

---

<b>4.1</b>	<b>Presentation .....</b>	<b>4.1</b>
4.1.1	Location of Unit .....	4.1
4.1.2	Environment .....	4.3
<b>4.2</b>	<b>Connections and Cabling .....</b>	<b>4.3</b>
4.2.1	Detailed description .....	4.3
<b>4.3</b>	<b>Power Supply .....</b>	<b>4.19</b>
4.3.1	Installation procedure .....	4.19
<b>4.4</b>	<b>SIP Terminals .....</b>	<b>4.34</b>
4.4.1	8082 My IC Phone .....	4.34
4.4.2	4135 IP Conference Phone .....	4.40
4.4.3	Generic SIP Phones .....	4.46
<b>4.5</b>	<b>8 Series Sets .....</b>	<b>4.48</b>
4.5.1	IP Touch 4008/4018 Phone .....	4.48
4.5.2	IP Touch 4028/4038/4068 Phone .....	4.53
<b>4.6</b>	<b>9 Series Sets .....</b>	<b>4.60</b>
4.6.1	4019 Digital Phone .....	4.60
4.6.2	4029/4039 Digital Phone .....	4.62
<b>4.7</b>	<b>V24/CTI Interface Module .....</b>	<b>4.65</b>
4.7.1	Hardware description .....	4.66
4.7.2	Hardware configuration .....	4.67
4.7.3	External connections .....	4.68
<b>4.8</b>	<b>AP Interface Module .....</b>	<b>4.70</b>
4.8.1	Hardware description .....	4.70
4.8.2	Hardware configuration .....	4.72
4.8.3	External connections .....	4.73
<b>4.9</b>	<b>S0 Interface Module .....</b>	<b>4.75</b>
4.9.1	Hardware description .....	4.75

4.9.2	Hardware configuration .....	4.77
4.9.3	External connections .....	4.78
<b>4.10</b>	<b>Intelligent Base Stations .....</b>	<b>4.81</b>
4.10.1	Detailed description .....	4.81
4.10.2	Safety rules .....	4.89
<b>4.11</b>	<b>PIMphony .....</b>	<b>4.92</b>
4.11.1	Overview .....	4.92
4.11.2	Additional Information .....	4.93
<b>4.12</b>	<b>Reflexes Terminals .....</b>	<b>4.94</b>
4.12.1	Installation procedure .....	4.94
<b>4.13</b>	<b>Extending Your Installation .....</b>	<b>4.99</b>
4.13.1	Detailed description .....	4.99

---

## Chapter 5

### Stations Default Configuration

---

<b>5.1</b>	<b>Detailed description .....</b>	<b>5.1</b>
5.1.1	DEFAULT CONFIGURATION .....	5.1

---

## Chapter 6

### Start-Up

---

<b>6.1</b>	<b>System Startup from a Phone Set .....</b>	<b>6.1</b>
6.1.1	Configuration procedure .....	6.1
<b>6.2</b>	<b>System Startup from OMC .....</b>	<b>6.9</b>
6.2.1	Overview .....	6.9
6.2.2	Installation procedure .....	6.9
6.2.3	Accessing the System .....	6.10
6.2.4	Downloading the Software .....	6.17
6.2.5	Services provided .....	6.19

## Chapter 7

### Maintenance Services

---

<b>7.1</b>	<b>Maintenance Level 1 .....</b>	<b>7.1</b>
7.1.1	Maintenance .....	7.1

## Chapter 8

### Glossary

---

<b>8.1</b>	<b>Glossary .....</b>	<b>8.1</b>
8.1.1	A .....	8.1
8.1.2	B .....	8.1
8.1.3	C .....	8.2
8.1.4	D .....	8.3
8.1.5	E .....	8.3
8.1.6	F .....	8.3
8.1.7	G .....	8.4
8.1.8	H .....	8.4
8.1.9	I .....	8.4
8.1.10	K .....	8.5
8.1.11	L .....	8.5
8.1.12	M .....	8.5
8.1.13	N .....	8.6
8.1.14	O .....	8.6
8.1.15	P .....	8.6
8.1.16	Q .....	8.7
8.1.17	R .....	8.7
8.1.18	S .....	8.8
8.1.19	T .....	8.8

8.1.20	U .....	8.9
8.1.21	V .....	8.9
8.1.22	W .....	8.9

## **1.1 Preliminary**

### **1.1.1 Overview**

#### **1.1.1.1 SYMBOLS USED IN THE DOCUMENTATION**



See note.



See important information.

#### **1.1.1.2 CLAUSES**

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## **1.2 Security**

### **1.2.1 Safety rules**

#### **1.2.1.1 Safety Declaration**

We, Alcatel-Lucent Enterprise 32, avenue Kléber 92707 Colombes Cedex - France, declare that the products presented in this manual conform to the essential requirements of Directive 1999/CE/5 of the European Parliament and Council.

Any unauthorized modification to the products invalidates this declaration of conformance.

In pursuance of this directive which appeared in the Official Journal of the European Community on April 7 1999, this equipment can be used in all European Community member states, and in Switzerland and Norway.



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Alcatel-Lucent Enterprise - 32, avenue Kléber F-92707 Colombes Cedex RCS Paris 602 033 185.

#### **1.2.1.2 General Recommendations**

### Protective earthing



**This equipment must imperatively be connected to a permanent earth protection installed according to current legislation.**

### Installation of the mains power

The mains power must be installed as close as possible to the unit and must be easily accessible. The power supply lead is used as the master switch.

### Free board slots



**It is essential that empty board slots are guarded with the appropriate expansion slot covers for full electromagnetic shielding, the safety of people working nearby (in the presence of hazardous voltages) and the prevention of fire propagation (from inside the unit).**

### Lead and Lithium batteries



**There is a risk of explosion if the batteries are incorrectly replaced. Only use batteries of identical type, or manufacturer recommended equivalents. Discard used batteries according to the battery manufacturer's instructions.**

### Power supply



**Due to the presence of hazardous voltages, the rear metal panel can only be removed by qualified personnel.**

If it is necessary to carry out work on a power supply unit, first disconnect the mains cable from the system as well as any external EPS48 power connections that may be connected. Then remove the rear metal panel of the power supply block and disconnect the batteries.

### High leakage current



**A permanent earth connection is essential before making TRT/TNV-3 telecommunication network connections.**

In the case of a poor earth connection, it is **MANDATORY** to disconnect the telecommunications accesses before reconnecting the equipment to earth. It is then necessary to verify that all the connections have been made correctly.



**Before removing any board that provides access to a telecommunications network of class TRT/TNV-3, make sure you disconnect the links. Reconnect the links once the board is re-inserted.**

### Installation of DECT bases

For further information on recommendations relating to the exposure of the public to the electromagnetic field, refer to "Installation of DECT bases".

#### 1.2.1.3 Declaration of Conformance With Directives

This equipment is designed to be connected to the public telephone network using the appropriate interfaces.

The EC labeling indicates that this product conforms to the EC directives currently in force, in particular:

- 89/336/EEC (Electromagnetic compatibility)
- 73/23/EEC (Low Voltage)
- R&TTE 1999/5/EC compliance
- 1999/519/EC (Specific Absorption Rate)

#### 1.2.1.4 Interface Classification

##### 1.2.1.4.1 OmniPCX Office RCE Small, Medium, Large

SELV: Safety Extra Low Voltage TNV-3: Telecommunication Network Voltage

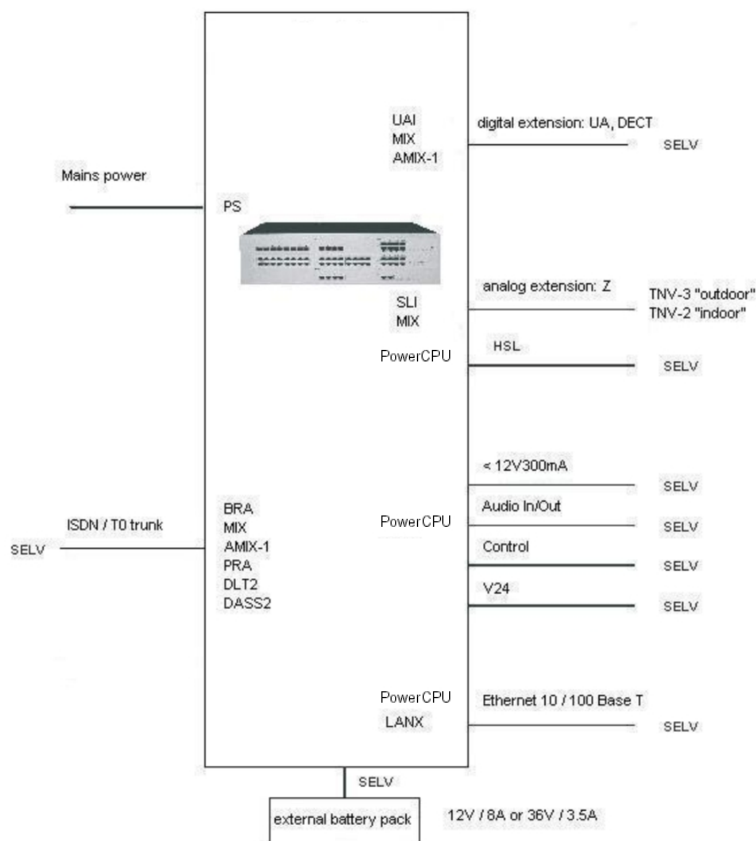


Figure 1.2: OmniPCX Office RCE Small, Medium, Large

##### 1.2.1.4.2 OmniPCX Office RCE Compact

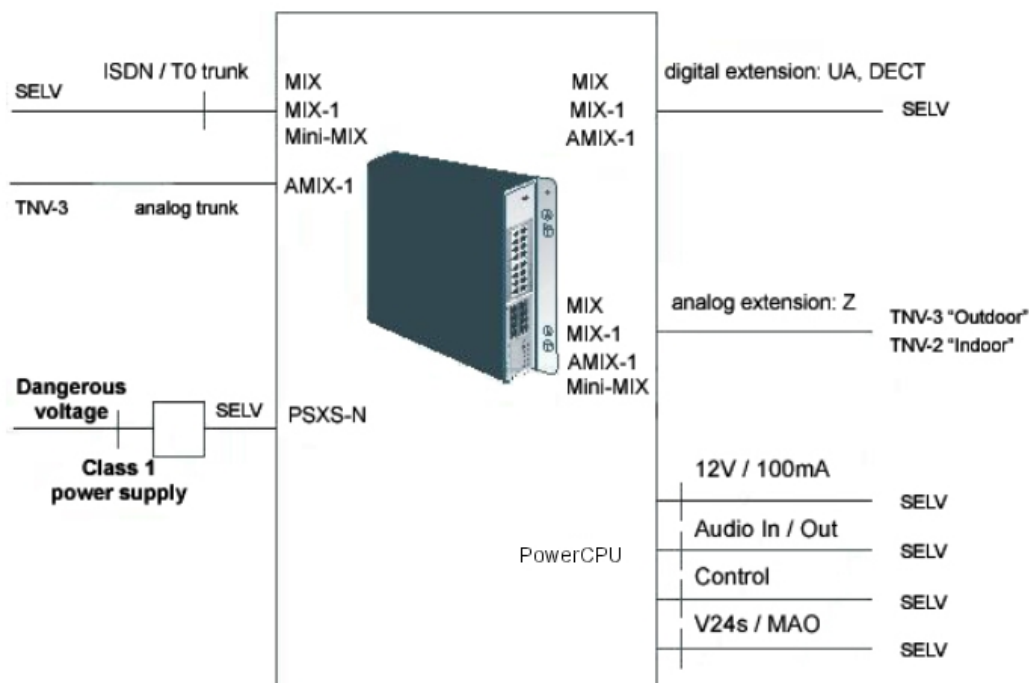


Figure 1.3: OmniPCX Office RCE Compact

*Note:*

*The Mini-MIX daughter board requires BACKXS-N back panel and PSXS-N power supply module. The Mini-MIX daughter board can be used only in an OmniPCX Office RCE Compact or, in case of migration from R7.1 or lower, in a Compact Edition 2nd Generation, equipped with a PowerCPU board.*

## 1.3 Protection against Interferences

### 1.3.1 Protection against Interferences

Notice to the attention of the users and installer:

#### **USA - FCC (Federal Communication Commission)**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to consult the installer or service person.

Changes or modifications to this equipment, not expressly approved by ALCATEL-LUCENT,



may cause harmful interference and void the user's authority to operate this equipment.

**Japan - VCCI (Voluntary Control Council for Interference)**

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取扱いをして下さい。

Translation :

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.



## *Hardware: Platform and Interfaces*

### 2.1 Overview

Alcatel-Lucent OmniPCX Office Communication Server is a business communication server offering proven telephony functions with data management. This "multi-purpose" server provides a turnkey global communication solution for small and medium-scale businesses with 6 to 200 employees.

The Alcatel-Lucent OmniPCX Office Communication Server range includes:

- the Alcatel-Lucent OmniPCX Office Rich Communication Edition Compact platform
- the Alcatel-Lucent OmniPCX Office Rich Communication Edition Small platform
- the Alcatel-Lucent OmniPCX Office Rich Communication Edition Medium platform
- the Alcatel-Lucent OmniPCX Office Rich Communication Edition Large platform

The Alcatel-Lucent OmniPCX Office Communication Server range is supplied:

- with all the sub-assemblies required for your particular configuration,
- configured with the software key corresponding to the level of services desired (according to country).

The stations are packaged separately.

### 2.2 Platforms

Alcatel-Lucent OmniPCX Office Communication Server is available in the following models:

#### 2.2.1 OmniPCX Office RCE Compact



- 14 ports.
- 1 CPU slot + 1 MIX slot

- Energy consumption: 1.5 A (240 V)
- Dimension: H = 345 mm; W = 370 mm; D = 65 mm.
- Weight: 5.1 kg.

The following mixed boards are available:

- MIX 2/4/4
- MIX 2/4/8
- MIX 2/8/4
- MIX 4/4/8
- MIX 4/8/4
- AMIX-1 4/4/4
- AMIX-1 4/4/8
- AMIX-1 4/8/4
- Mini-MIX (PowerCPU daughter board)

*Note:*

*This wall-mounted version is also called **XS-N**.*

The Mini-MIX daughter board, plugged on a PowerCPU board, requires an OmniPCX Office RCE Compact, or, in case of migration from Release 7.1 or lower, a Compact Edition 2nd Generation. The Mini-MIX daughter board cannot be used on an Alcatel-Lucent OmniPCX Office Compact Edition.

The PowerCPU board shows a Mini-MIX LED activated when the Mini-MIX daughter board is detected on the PowerCPU board.

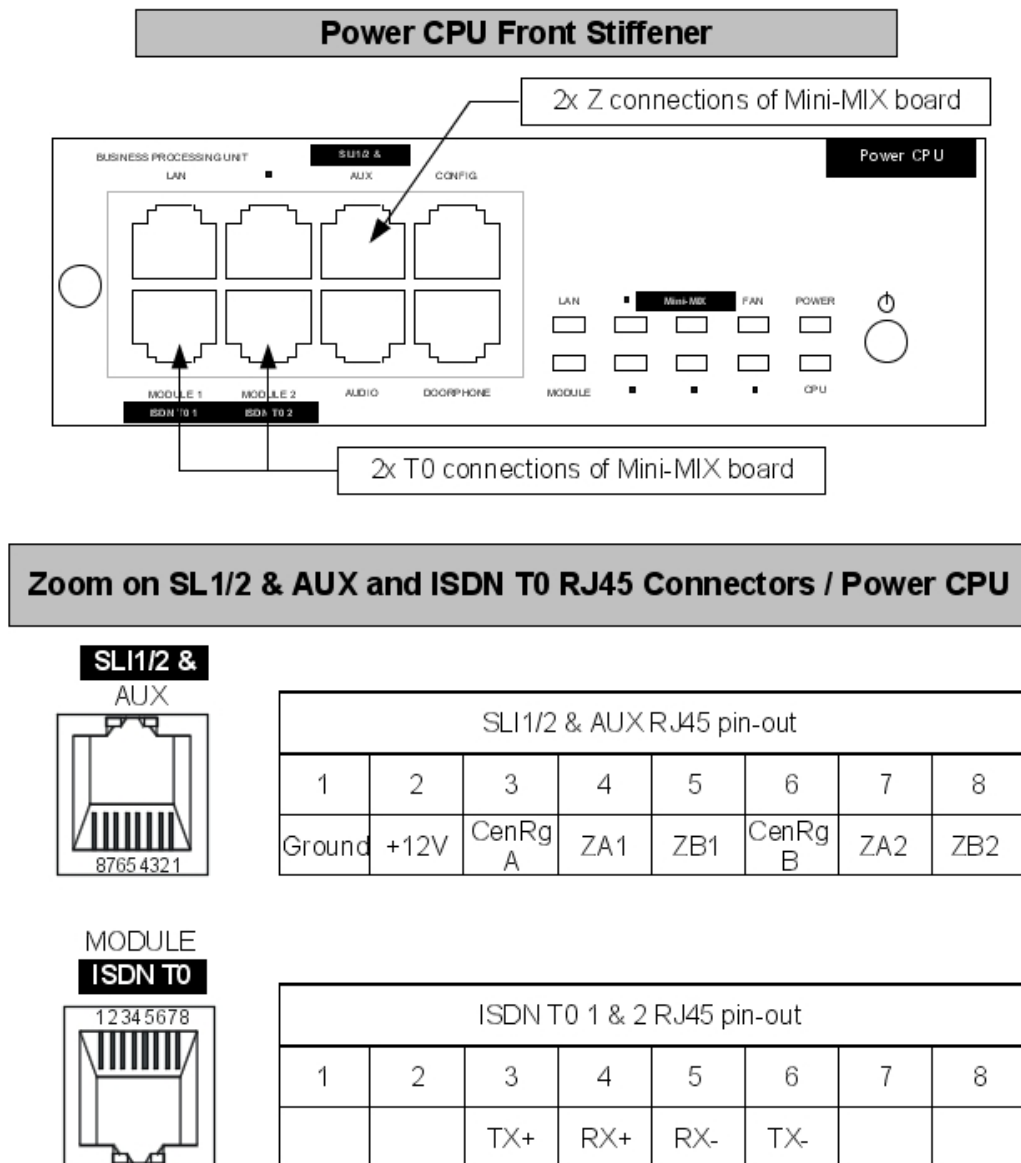


Figure 2.2: Mini-MIX connections on PowerCPU Board

Equipment numbering:

- Slot 80 EN 01 for the first T0 access (80-001-01)
- Slot 80 EN 02 for the second T0 access (80-002-01)
- Slot 80 EN 09 for the first Z access (80-009-01)
- Slot 80 EN 10 for the second Z access (80-010-01)

## 2.2.2 OmniPCX Office RCE Small



- 28 ports.
- 1 CPU slot 2 general-purpose slots (no SLI16 board).
- Energy consumption: 1 A (230 V) / 2 A (110 V) - 80 W.
- Dimension: H = 66 mm; W = 442 mm; D = 400 mm.
- Weight: 6 kg.

### 2.2.3 OmniPCX Office RCE Medium



- 56 ports.
- 1 CPU slot 5 general-purpose slots.
- Energy consumption: 1,2 A (230 V) / 2,3 A (110 V) - 120 W.
- Dimension: H = 110 mm; W = 442 mm; D = 400 mm.
- Weight: 11 kg.

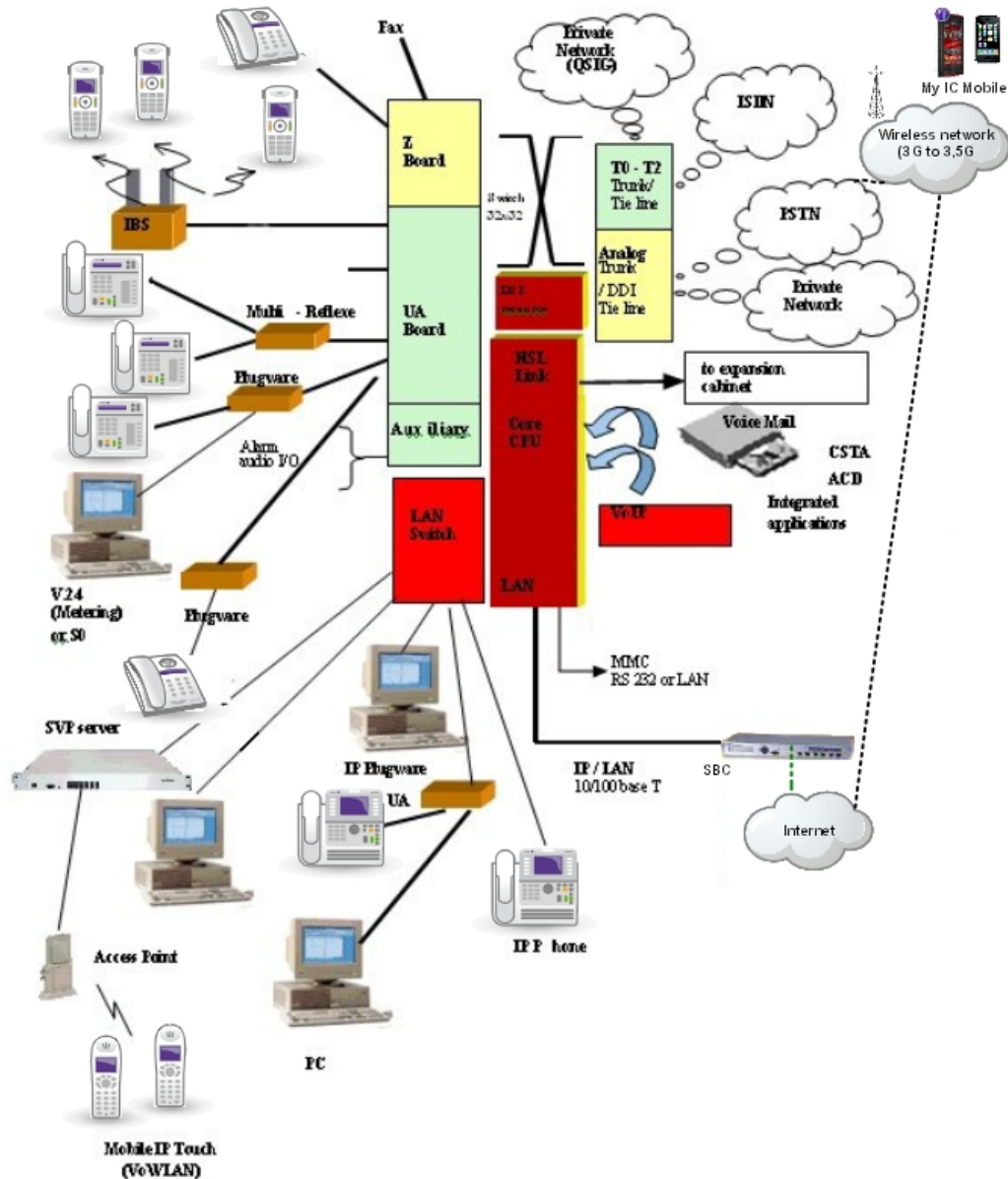
### 2.2.4 OmniPCX Office RCE Large



- 96 ports.
- 1 CPU slot + 4 general-purpose slots + 4 specific slots (no UAI16 and MIX boards)
- Energy consumption: 1,2 A (230 V) / 2,3 A (110 V) - 150 W.
- Dimension: H = 154 mm; W = 442 mm; D = 400 mm.
- Weight: 13 kg.

## 2.3 Installation

### 2.3.1 Overview



This hardware must be installed on the customer's site, by a qualified installer, in

compliance with the instructions provided with the hardware.



Equipment shall be installed at the factory or in the field by submitter's trained personnel in accordance with the installation instruction provided with the equipment.

## 2.4 Equipment

### 2.4.1 Boards and Options

The following table lists the boards available on OmniPCX Office RCE Small, Medium, Large.

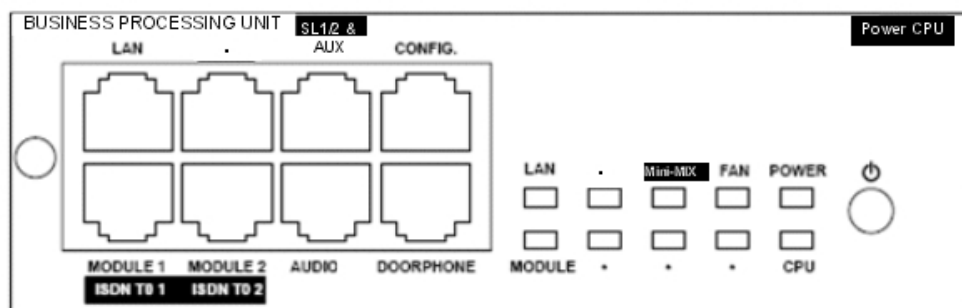
Board	Function	Optional boards	Connections
APA2 APA4 APA8	2, 4 or 8 analog trunk line interfaces	GSCLI: Ground Start signaling CLIDSP: CLIP local management	Analog trunk line (TL), TL-PS diversion
ATA2 ATA4	2 or 4 analog trunk line interfaces	MET: pulse meter receivers (phased out)	Analog trunk line (TL), TL-PS diversion
BRA2 BRA4 BRA8	2, 4 or 8 T0 basic accesses		ISDN network ISDN-EFM T0/S0 forwarding box
PowerCPU	Processing Unit (As of R8.0), SD/MMC Memory card (2GB), 256 MB DDR2 SDRAM. Optional Hard Drive	HSL1, HSL2: interconnection with expansion modules AFU-1: (Auxiliary Function Unit) ARMADA VoIP32: VoIP channels	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC
DDI2 DDI4	2 or 4 analog trunk line interfaces with Multiple Subscriber Numbers (MSN)		Analog trunk line with Multiple Subscriber Numbers (MSN)
LanX8 LanX16 LANX16-1 LanX8-2 LANX16-2	8 or 16 port Ethernet 10/100 BT (of which 1 or 2 10/100/1000 BT ports on LANX-2 boards)		@ Phones, Hub, Lanswitch, PC, etc.
PowerMEX (equipped with an HSL1 board)	Extension module controller		



Board	Function	Optional boards	Connections
MIX244 MIX248 MIX284 MIX484 MIX448 MIX044 MIX084 MIX048	0, 2 or 4 T0 basic accesses + 4 or 8 UA interfaces + 4 or 8 Z interfaces		ISDN network, analog Z terminals and Alcatel-Lucent 9 series or Alcatel Reflexes stations
AMIX484-1 AMIX448-1 AMIX444-1	4 analog line accesses, 4 or 8 UA interfaces and 4 or 8 Z interfaces	GSCLI: Ground Start signaling CLIDSP: local CLIP management METCLI	PSTN network, analog Z terminals and Alcatel-Lucent 9 series or Alcatel Reflexes stations
PRA-T2 PRA-T1 DASS2 DLT2 T1-CAS T1-CSS PCM R2	PRA -T2, DASS2, DLT2: 30 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 2048 Kbps. PRA-T1: 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 1544 Kbps 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel T1-CAS: 24 x B-channels, including signaling; 1544 Kbps. PCM R2: 30 x 64 Kbps B-channels +1 x 4 Kbps signaling channel; 2048 Kbps.		PRA-T2: ISDN network DASS2: UK public/private network DLT2: Private QSIG network PRA-T1: Hong-Kong ISDN network ISDN (US) T1-CAS: USA public network PCM R2: Public network
SLI4 SLI8 SLI16 SLI4-1 SLI8-1 SLI16-1 SLI4-2 SLI8-2 SLI16-2	4, 8 or 16 Z interfaces		Analog Z terminals
UAI4 UAI8 UAI16 UAI16-1	4, 8 or 16 UA interfaces UAI16-1 board: possibility of powering terminals connected to the 16 interfaces remotely from an external EPS48 power supply		Alcatel-Lucent 9 series or Alcatel Reflexes stations Multi Reflexes 4099 4070 IO/EO DECT base stations EPS48 only on interface 1 of the UAI16-1 board

## 2.4.2 Detailed description

### 2.4.2.1 Processing Unit PowerCPU Board



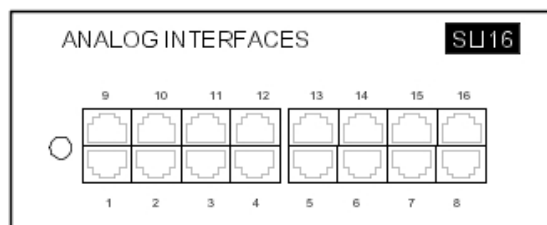
As of R8.0, the PowerCPU board performs the CPU functions of an OmniPCX Office system.

#### 2.4.2.1.1 Function of the LEDs

Name	Color	Function
CPU	Green	CPU functioning LED (flashing)
POWER	Red/Green	<ul style="list-style-type: none"> <li>Mains operation: steady green LED</li> <li>Battery operation: steady yellow LED</li> <li>Idle: flashing red LED</li> <li>System shut down: steady red LED</li> </ul>
FAN	Red/Green	<ul style="list-style-type: none"> <li>Both fans functioning: steady green LED</li> <li>1 or both fans down: steady red LED</li> </ul>
LAN	Green	LAN functioning LED (flashes when there is traffic)
Mini-MIX	Green (only on OmniPCX Office RCE Compact platform)	Green only when accepted by the license 2B channels for MIX boards. Detection of Mini-MIX board in OmniPCX Office RCE Compact platform.
MODULE	Green	Presence of HSL board

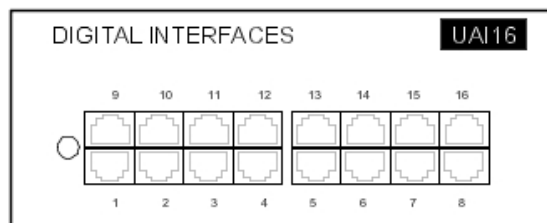
#### 2.4.2.2 SLI-X Boards

Board allowing the connection of 4, 8 or 16 analog terminals.



#### 2.4.2.3 UAI-X Boards

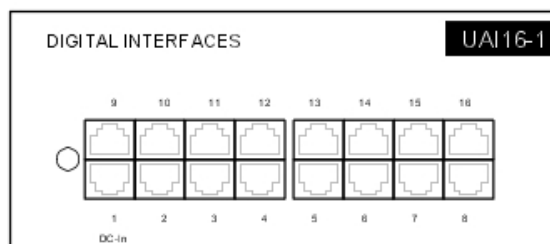
Board used for connecting up digital terminals or DECT 4070 IO/EO base stations.



The UAI16-1 board is used to power terminals connected to the 16 interfaces remotely from an EPS48 external power supply connected to interface 1 via an external adapter cable (splitter).

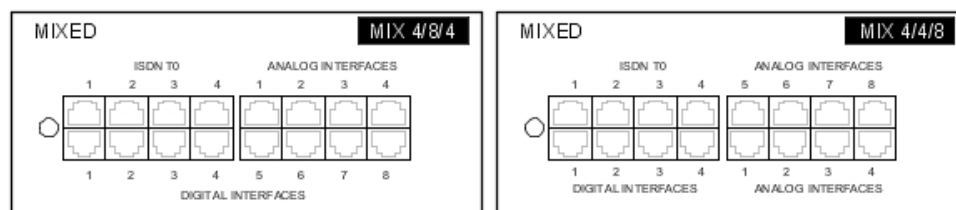
**Caution:**

**Only use EPS48 power supplies and the splitters provided.**



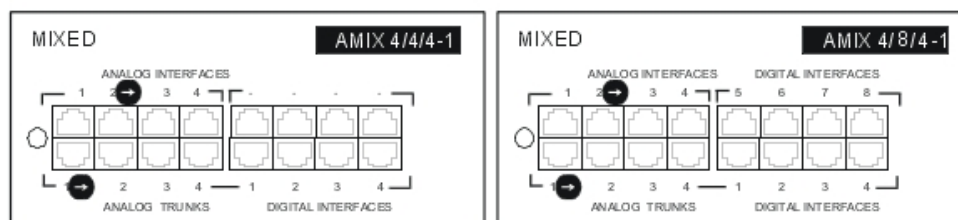
#### 2.4.2.4 MIX x/y/z

These boards are used to connect 2 or 4 base T0 access points, 4 or 8 analog terminals and 4 or 8 digital dedicated terminals.



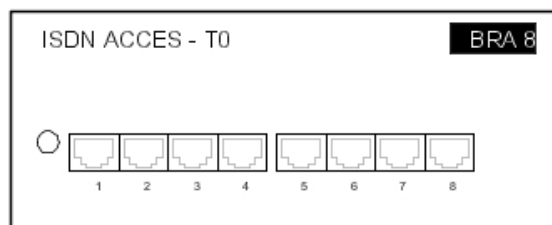
#### 2.4.2.5 AMIX-1 X/Y/Z Boards

These boards are used to connect 4 analog accesses, 4 or 8 analog terminals and 4 or 8 digital dedicated terminals.



#### 2.4.2.6 BRA-X Board

These boards are used to connect 2, 4 or 8 base T0 access points (2 B channels + 1 D channel) in order to connect the system to the digital public ISDN network (T0 point-to-point or multipoint connection) or to a private network (DLT0 point-to-point connection); the operating mode, T0 or DLT0, can be configured by OMC.

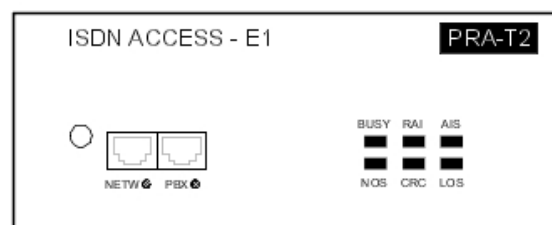


#### 2.4.2.7 PRA Boards

This board provides 1 primary access for connecting the Alcatel-Lucent OmniPCX Office Communication Server system to the ISDN digital public network or to private networks:

- PRA -T2, DASS2, DLT2 : 30 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 2048 Kbps.
- PRA-T1 : 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 1544 Kbps.
- T1-CAS: 24 x B-channels, including signalling; 1544 Kbps.
- PCM R2: 30 x 64-Kbps B-channels + 1 x 4-Kbps signaling channel; 2048 Kbps.

The diagram below shows the end-plate of the PRA-T2 board, but the other PRA boards are similar.

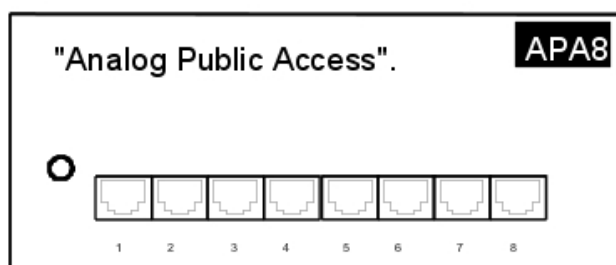


##### 2.4.2.7.1 Function of the LEDs

T2 Name	T1 Name	Function
BUSY	BUSY	B-channels busy (red LED lights up if at least 1 B-channel is busy)
RAI (ATD)	RAI	Remote frame alarm (red LED lights up on alarm)
AIS (SIA2M)	AIS	Too many "1's in the 2-Mbit binary train (red LED lights up on alarm)
NOS (MS)	NSIG	Absence of 2-Mbit signal (red LED lights up on alarm)
CRC (TE)	CRC	CRC error (red LED lights up on alarm)
LOS (PVT)	NSYN	Loss of frame alignment (red LED lights up on alarm)

### 2.4.2.8 APA Boards

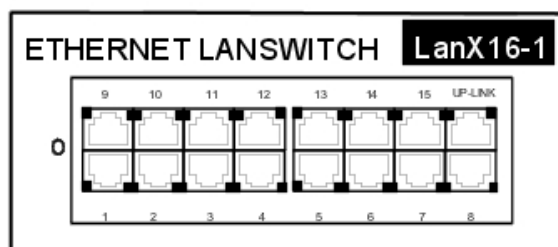
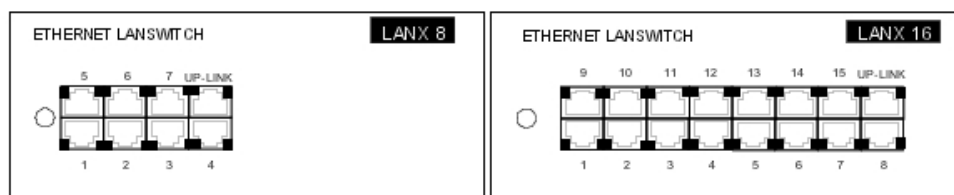
This board is used to connect to the analog public network (2, 4 or 8 LR).



The APA board does not support pulse dialing in Australia and New Zealand.

### 2.4.2.9 LAN-X Boards

These boards are used to create a local area network (LAN) by connecting client PCs, IP-Phones, an external Lanswitch and servers.



Each category-5 RJ45 connector has 2 green LEDs:

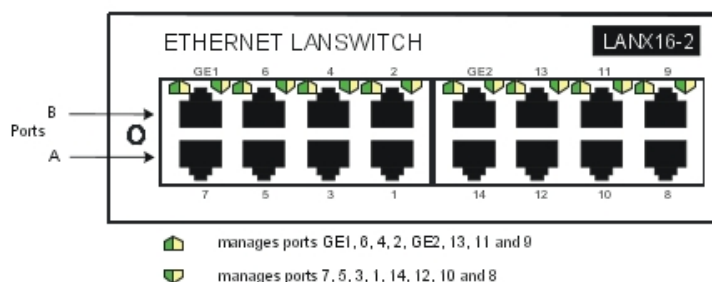
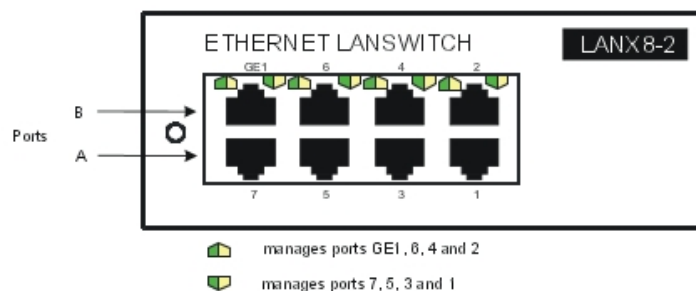
- Left LED = link status and activity:
  - off: link disconnected
  - on: link connected
  - blinking: link active
- Right LED = full duplex/collision:
  - off: Half Duplex
  - on: Full Duplex
  - blinking: collision

#### 2.4.2.10 LANX-2 Boards

The LanX8-2 and LanX16-2 are second generation boards integrating respectively 1 or 2 Ethernet Gigabit ports for a Lanswitch/Layer 2 configuration. Any port can be used as an Uplink, as all the ports are auto MDI/MDIX.

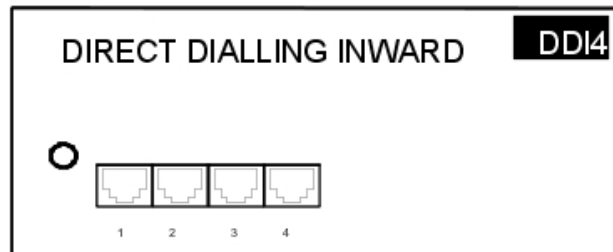
Unlike the 1st generation boards, the LEDs of the A and B ports are both located at the top of the board. The Led display is as follows:

- Green LED (left) = link status and activity:
  - off: link disconnected
  - on: link connected
  - blinking: link active
- yellow LED (right) = speed:
  - off: low speed (10 or 100 Mb for Gigabit port, 10 Mb for the other ports)
  - on: high speed (1 Gb for Gigabit port, 100 Mb for the other ports)



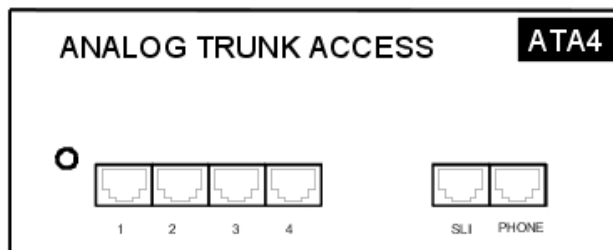
#### 2.4.2.11 DDI-X Board

This board is used to connect 2 or 4 analog trunk lines with Multiple Subscriber Numbers.



#### 2.4.2.12 ATA Board

The ATA (Analog Trunk Access) board serves to connect analog trunk lines (2 or 4 TL).



The ATA board does not support pulse dialing in Australia and New Zealand.

#### 2.4.2.13 Daughter Board Provision on PowerCPU Board

The table below presents the daughter boards which can be provided on the PowerCPU board, according to the platform used.

Daughter Boards	OmniPCX Office RCE Compact	OmniPCX Office RCE Small, Medium, Large
<b>ARMADA VoIP32</b>	Yes	Yes
<b>HSL1</b>	No	Yes
<b>HSL2</b>	No	Yes
<b>AFU-1</b>	Yes	Yes
<b>SATA HARD DISK + SATAEXT board</b>	Yes	Yes
<b>Mini-Mix</b>	Yes	No

*Note:*

*The Mini-MIX daughter board requires BACKXS-N back panel and PSXS-N power supply module. The*

*Mini-MIX daughter board can be used only in an OmniPCX Office RCE Compact or, in case of migration from R7.1 or lower, in a Compact Edition 2nd Generation, equipped with a PowerCPU board.*

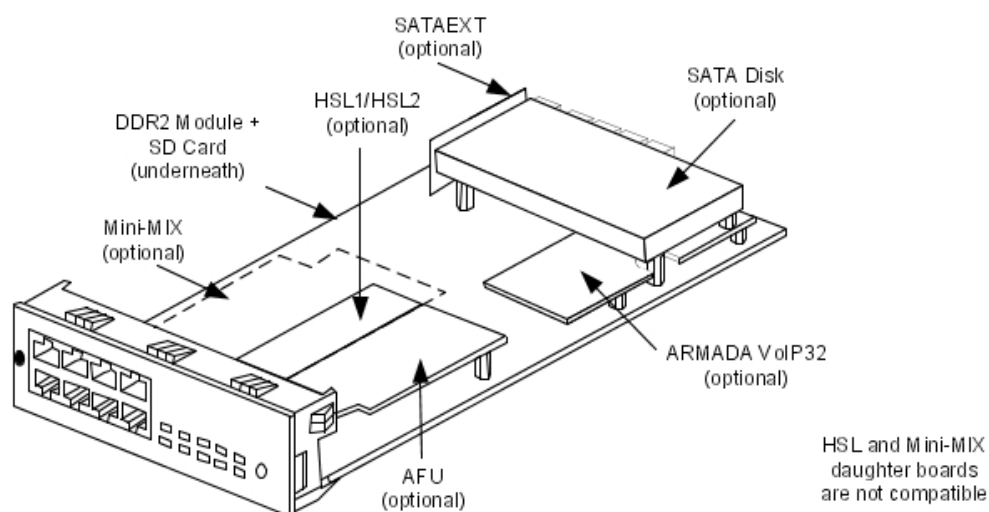


Figure 2.22: Example of Daughter Boards on PowerCPU

#### 2.4.2.14 Provision By Platform

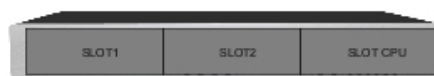
##### 2.4.2.14.1 OmniPCX Office RCE Compact



Board	MIX Slot	CPU Slot
PowerCPU	No	Mandatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No

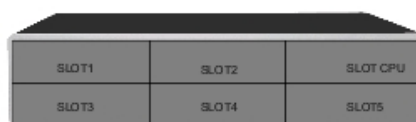
##### 2.4.2.14.2 OmniPCX Office RCE Small





Boards	Slots 1-2	CPU Slot
PowerCPU	No	Mandatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No
UAI4, UAI8, UAI16, UAI16-1	Yes	No
SLI4, SLI8, SLI4-1, SLI8-1, SLI4-2, SLI8-2	Yes	No
SLI16, SLI16-1, SLI16-2	No	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	No
APA4, APA8	Yes	No
DDI2, DD14	No	No
BRA2, BRA4, BRA8	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	No

#### 2.4.2.14.3 OmniPCX Office RCE Medium



Boards	Slots 1-2-3-4-5	CPU Slot
PowerCPU	No	Mandatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No
UAI4, UAI8, UAI16, UAI16-1	Yes	No
SLI4, SLI8, SLI16, SLI4-1, SLI8-1, SLI16-1, SLI4-2, SLI8-2, SLI16-2	Yes	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	No
APA4, APA8	Yes	No
DDI2, DD14	Yes	No
BRA2, BRA4, BRA8	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	No

## 2.4.2.14.4 OmniPCX Office RCE Large



Boards	Slot 1	Slots 2-3-4	Slots5-6-7-8	CPU Slot
PowerCPU	No	No	No	Mandatory
MIX x/y/z	Yes	Yes	No	No
AMIX-1 x/y/z	Yes	Yes	No	No
UAI4, UAI8	Yes	Yes	Yes	No
UAI16, UAI16-1	Yes	Yes	No	No
SLI4, SLI8, SLI16, SLI4-1, SLI8-1, SLI16-1, SLI4-2, SLI8-2, SLI16-2	Yes	Yes	Yes	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	Yes	Yes	No
APA4	Yes	Yes	Yes	No
APA8	Yes	No	Yes	No
DDI2, DD14	Yes	Yes	Yes	No
BRA2, BRA4, BRA8	Yes	Yes	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	Yes	Yes	No

## 3.1 Software Licence Management

### 3.1.1 SOFTWARE LICENCE MANAGEMENT

On an Alcatel-Lucent OmniPCX Office Communication Server several types of devices may be connected, several services may be offered and several applications may run.

The purpose of the feature “Software Licence Management” is to define for a given system (i.e. customer) the service level to offer, this mainly means:

- What devices are allowed and how many of each type.
- Which service is offered.
- Which application is to open.
- How many users are allowed.
- What features the hardware can support.

The SWL (SoftWare Licence) files define the level of service requested.

The software licenses are the encoded result of the service levels and of a unique cpu ID. They should be loaded during the installation of the system.

The software license can be managed by either of the 2 following modes:

- **Normal mode:** Like for any previous release, there is no user definition and the validity of the license in open state is not limited.
- **Pay Per User (PPU) mode:** This mode introduces a “user” definition and the validity of the license in OPEN state is limited and daily checked by the system.

*Note:*

*In Normal mode and in PPU mode, the SWL files are loaded to the system or updated manually using OMC*

Once SWL files are available on the system, either in Normal mode or in PPU mode, the feature is the same for both modes and it manages the following functions

- Definition, modification and checking of the service level.
- Dimensioning of a system for a correct service level.
- Limitation of requested services depending on hardware installed.
- Daily or on request checking (by OMC) of the SWL files in order to adapt the service level.
- Selection between PPU mode or Normal one
- Information to user and/or installer about the state of system in terms of service level.

## 3.2 Software Keys

In the Alcatel-Lucent OmniPCX Office Communication Server system, a software key is represented by an alphanumeric string of characters, which opens functions. Two software keys correspond to each Alcatel-Lucent OmniPCX Office Communication Server system:

- the **PRINC (PRINCIPAL) software key** or **MAIN** for the system functions (voice, system feature, etc.)
- the **CTI Software key** for the CTI functions

The software key corresponds to a text file where the name is the CPU hardware number with the **.MSL** (MAIN key) or **.CSL** (CTI key) extension.

*Example:*

*file 000068DA.msl and 000068DA.csl for main CPU no. 000068DA.*

Each system needs the Main and CTI Software keys even if no CTI application is used on the system.

The systems can be delivered with a key that is already personalized for the client. The Distributor needs to load if necessary the personalized key on the non-factory-configured systems.

On starting up the system, different cases are possible:

- **The functions needed by the customer are open and work properly:** the software key present on the system is correct.
- **The functions needed are not open**
- **The key is valid but some functions are not open** (verification done by MMC).
  - Verify that the order meets the client's needs. If not, contact the orders" department. A new software key needs to be created including the new features.
  - When loading the key via OMC a warning message is displayed. In this case the functionalities may be limited due to insufficient memory (Hard disk) or CPU power.
- **The software key present on the system is not correct:**
  - The software key syntax is correct but it does not match the CPU's serial number. The system functions correctly with all its functionalities for 30 days. A message " Software Key Error " is displayed on the Operator terminal. Press the Alarm key to show the expiry date. When loading a correct key (valid CPU serial number) during this period, the system state is normal. If no correct key is loaded after 30 days, the system will restart in limited state with only sets belonging to the Operator group working, all other sets being out of service; the "Software key error" is displayed on the operator station.
  - The software key syntax is incorrect. The system starts in limited mode. When loading the correct Software key (with the correct serial number), the system restarts with all functions working.
  - **New control starting with R2.0:**
    - The software key syntax is correct, but the software key does not match the system's software release. The system functions correctly with all its functionalities for 30 days.
    - The software key syntax is correct, the software release is correct but a more recent key has already been entered on this system and it is not possible to revert to a previous key. The system functions correctly with all its functionalities for 30 days.

*Remark:*

*For a system in limited mode, when a valid software key is loaded, the system restarts with all its functionalities.*

### 3.2.1 Voice Services Available in "Limited" Mode

- Stations in the default Attendant Group and analog sets with automatic call setup on going off-hook
- no DECT stations, including DECT Reflexes stations
- Voice server with name announcement, 2 ports and 20 minutes" storage
- 4 welcome messages (pre-announcement)
- 2 system languages
- "Please Wait" music: 2 minutes max.
- All the other functions are closed.

### 3.2.2 Software Key Change

In BTCO mode, the software key is loaded into the system by the manufacturer; in "stock mode" (after sale), the key must be entered by the distributor. When upgrading, the installer must modify the key before the new functions will be taken into account.

The key is modified using OMC or DHM-station.

#### 3.2.2.1 Procedure with OMC

- To read the series number of a CPU board: Select **Typical Modification -> System -> Software key -> Hardware serial number**
- Send this serial number and the function levels required to Alcatel-Lucent Enterprise
- Load the key file *Main.msl* or *CTI.csl* from the Alcatel-Lucent Business Partner Internet site (this file can also be downloaded by the manufacturer)
- Downloading a new software key:
  - Select **Typical Modification -> System -> Software key**
  - Click on **Importing the key**
  - On the **Open** screen, select the file for the new software key
  - Validate
  - On the **Software Key** screen, click on **Apply**
- Opening certain functions requires a hot reset; a message is displayed.



If the hardware required to carry out the functions that have been opened by the software key is not present, the functions available are automatically reduced to suit the available hardware; and error message is displayed when the key is implemented.



The values of the various functions controlled by the key can be viewed at any moment:

- Using OMC, select **Typical Modification -> System -> Software key**
- Click on **Details**: the first column indicates the functions defined by the key, the second column indicates the functions actually open (after any reductions).

## 3.3 Detailed description

### 3.3.1 Services controlled by the "Main" software key

The following table lists the functions controlled by the "Main" software key. If a software key is not present in the system, or is incorrect, the system starts in a limited state. The table also gives the limited state service levels, the granularity of upgrades, the maximum service level for each service, and if a hardware extension exists.

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
STANDARD TELEPHONY					
Number of digital sets	All	According to selected model	+1	236	
Number of analog sets	All		+1	236	
MOBILITY					
Number of DECT sets	All	0	+1	200	
Number of Mobile IP Touch sets	From R5.0	0	+1	120	
CALL MANAGEMENT					
ARS	All	open in R1.0/R1.1, closed from R2	open		NO
DISA/Transit DISA	All		open		NO
ISVPN on ISDN (ARS required)	All	closed	open		NO
QSIG + (ARS required)	All	closed	open		NO
Number of Meet Me Conference	From R5.1	0	+ 1	1	
Enhanced Automated Attendant (EAA)	From R6.0	0	+ 1	5	No
NETWORKS					
Number of B-channels	All	0	+1	120	
Number of B-channels on MIX boards	From R4	0	+2	120	
WEB APPLICATION					
Number of My IC Web for Office sessions	From R8.1	0	1	50	
SNMP					
SNMP activation	From R2.1	closed	opened		
RAS					
number of access (b channels)	From R2	0	+2	16	
LAN TELEPHONY					
Number of IP Phones (IP Touch)	All	0	+1	200	
Number of PIMphony multimedia terminals	All	0	+1	200	
VoIP GATEWAY					

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
Number of VoIP channels	From R8.0	0	+1	48	YES
Number of VoIP trunk channels	All	0	+1	120	NO
	From R8.0	0	+1	48	YES
<b>VOIP</b>					
VoIP on application board	R1.0/R1.1	NO	YES		YES
	From R8.0	NO	NO		NO
<b>VOICE MAIL UNIT AND AUTOMATED ATTENDANT</b>					
Number of VMU ports	All	0 port	+1	8	YES
Storage capacity	All	20" or 60" From R5.0	10"	200 hours	YES
Automated Attendant	All	closed	open		NO
Audiotext	All	closed	open		NO
Fax switching	All	closed	open		NO
Mailbox Greetings messages	All	closed	open		YES
Name in mailing lists	All	closed	open		YES
Recording of conversations	All	closed	open		YES
Remote customizing	From R2.0	closed	open		NO
<b>GREETINGS</b>					
Number of messages (16")	All	4	+4	20	YES
<b>MUSIC ON-HOLD (MOH)</b>					
Duration (minutes)	All	2 min	+2 min	10 min	YES
MOH for multiple entities	From R8.0	1	+1	4	NO
<b>METERING</b>					
Tickets for NMC	all	0	+ 1000	30000	Yes
Call accounting over IP	From R5.0	closed	open		No
Local calls	from R8.1	closed (see Note 2)	open		No
<b>LANGUAGES</b>					
Number of languages	all	2	1	4	Yes
<b>MULTIPLE AUTOMATED ATTENDANT</b>					
Number of tree structures: 1 license for 1 tree structure or 1 license for 5 tree structures	From R6.0	closed	open	5	NO
<b>Pay Per User (PPU)</b>					
PPU activation	From R5.0	R5 and R5.1: Not controlled by the system. From R6: Indication that On Demand option is enabled.			

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
PPU license validity date	From R6.0	Displayed if PPU license is enabled. It is the license validity date.			
Number of users	From R6.0	From R6: Not controlled by the system: Only used for information in OMC			
SWL RELEASE					
Required system release	From R2	0 (R1 or R1.1)	+1	1 (R2) 2 (R3) 3 (R4) 4 (R5) 5 (R6) 6 (R7) 7 (R8)	YES
ENGINE					
Package level	Ignored by the system				
ENGINEbis					
Special info for ELP	Ignored by the system				
Checker syst solution					
Special info for ELP	Ignored by the system				
Checker cs type					
Special info for ELP	Ignored by the system				
Checker PCX 01					
Special info for ELP	Ignored by the system				
Acknowledge Code					
Random code given by ecom.	From R2	1		FFFF	NO
EDITION					
Edition number of license	From R2	0	+1	FFFF	NO
Automatic Call Distribution					
Number of Automatic Call Distribution groups	From R3	8 groups	0	8	YES
Number of active Automatic Call Distribution agents	From R3	5, 10, 20, or 32 depending on license	0	32	YES
Automatic Call Distribution statistics module	From R3	closed	open		YES
Number of agent applications	From R3	0	+1	32	YES
Number of supervisors	From R3	0	+1	8	YES
MANAGED SERVICES					



Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
PROXY H323	From R3	closed	open		NO
MY TEAMWORK					
Version	From R6.1	IGNORED BY THE SYSTEM			
Number of audio ports					
Number of data ports					
MOBILITY ON GSM					
Number of mobiles of any type (MCE+NCC+My IC Mobile for iPhone or My IC Mobile for Android)	For R7	IGNORED BY THE SYSTEM			
Number of MCE mobiles (Windows)					
Number of NCC mobiles (Nokia)					
My IC Mobile users (same license used for both Apple iPhones and Android phones)	from R8.1	0	1	50	No
SERVICES OVER IP					
Number of Fax server ports	From R7	IGNORED BY THE SYSTEM			
Number of Open SIP phones	From R8.1	0	1	20 (R8.1) 60 (R8.2)	No
Codec Pass-Through	From R8.1	closed	open		No
UNIVERSAL DIRECTORY ACCESS (UDA)					
LDAP service	From R8.1	closed	open		No

### 3.3.2 Services controlled by the “CTI” software key

The following table lists the functions controlled by the "CTI" software key.

Controlled services	Relevant software version	Default state	Modularity	Max
APPLICATION				
PIMphony Pro	All	0	+1	250
PIMphony Team	All	0	+1	250
Nomadic mode	From R3	0	+1	25 (R4) 50 (R5.0)
PIMphony release	From R4.0	0	+1	50 (R4) 60 (R5.0)
PIMphony Attendant	From R5.0	0	+1	250
Pay Per User	From R5.0	Not controlled by the system		
INTEGRATED TAPI 2.0 <sup>1</sup>				

Controlled services	Relevant software version	Default state	Modularity	Max
Number of sessions	All	25 (R1) 0 (from R2)	+1	200
Number of monitors	All	250 (R1) 0 (from R2)	+1	950
Features	All	None		All
<b>Alcatel-Lucent OmniPCX Office Communication Server CALL CENTER</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>CSTA DESKTOP CLIENT</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>CENTRAL SERVICES</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>CSTA (ALL FEATURES)</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>TAPI 2.1 SERVER</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>BUSY LAMP FIELD (BLF)</b>				
Number of sessions	All	0	+1	200
Number of monitors	All	0	+1	950
Features	All	None		All
<b>XML SERVER</b>				
Number of sessions	All	0	+1	1
Number of monitors	All	0	+1	950
Features	All	None		All
<b>PIMphony UNIFIED</b>				
Number of sessions	From R3.1	0	+1	1
Number of monitors	From R3.1	5	+10	75

Controlled services	Relevant software version	Default state	Modularity	Max
Features	From R3.1	None		All
<b>SOFTWARE LICENSE VERSION</b>				
Required system version	From R2	0 (R1/R1.1)	+1	1 (R2) 2 (R3) 3 (R4) 4 (R5) 5 (R6) 6 (R7) 7 (R8)
<b>ACKNOWLEDGE CODE</b>				
Random code given by ecom.	from R2	0		FFFF
<b>EDITION</b>				
Edition of license	From R2	0	+1	FFFF (Hex)

## 3.4 Descriptions

### 3.4.1 Introduction

This section describes how the licenses affect the Alcatel-Lucent OmniPCX Office Communication Server.

### 3.4.2 Standard telephony

The number of sets allowed can be changed without reset, it means that all the devices are accepted but the sets, which exceed the limit, are put out of service (as it would be done by OMC) due to a SWL reason.

When a new SWL is entered, a search for Out Of Service sets for SWL reason is carried out and if allowed, are put into service.

### 3.4.3 Alcatel Reflexes sets

The sets are taken into account in their apparition order.

When a set is not allowed, its apparition is accepted, but the set is put "Out of service" due to a SWL reason. So if the attendant set appears after the limit is reached, it is refused.

UA sets behind TSC DECT or TSC/IP are not counted. NOE TDM sets are taken into account in this counter.

Licensing will accept 5 more sets than the limit, only if the system is not in default state. This

<sup>1</sup> In R1, this service is always present in the CTI software key. Only two monitors per session are allowed.

margin is only applied if the system is not in PPU mode.

### 3.4.4 Analog interfaces

The interfaces are taken into account in their apparition order. When there are only 10 licenses for analog access and when the analog board contains more than 10 accesses, only the first 10 accesses will work.

When an interface is not allowed, Its apparition is recognised but the interface is put "Out of service" (as it would be done by OMC) due to a SWL reason.

Licensing will accept 5 more interfaces than the limit, but only if the service is opened (if the limit is different than 0) and if the system is not in default state.

This margin is only applied if the system is not in PPU mode.

A port of an external voice mail is counted as an analog set.

### 3.4.5 Mobility

#### 3.4.5.1 *Number of mobile sets and TSC Dect*

The number of devices are limited at the set registration. When the limit is reached, the registration is accepted but the set is put "Out of service".

All Dect sets are counted: 4072, 4074, 4073, TINY, TSC Dect and other manufacturers sets. Licensing will accept 5 more sets than the limit, but only if the service is opened (if the limit is different than 0).

This margin is only applied if the system is not in PPU mode.

#### 3.4.5.2 *Number of mobile IP sets*

The number of devices is limited at the set registration. When the limit is reached, the registration is accepted but the set is put "Out of service".

Licensing will accept 5 more sets than the limit, but only if the service is opened (if the limit is different than 0). This margin is only applied if the system is not in PPU mode.

### 3.4.6 Call handling features

#### 3.4.6.1 *ARS*

The same as for Alcatel-Lucent OmniPCX Office Communication Server.

#### 3.4.6.2 *DISA / DISA Transit*

The same as for Alcatel-Lucent OmniPCX Office Communication Server.

#### 3.4.6.3 *ISVPN ISDNs*

The same as for Alcatel-Lucent OmniPCX Office Communication Server.

#### 3.4.6.4 *QSIG + (Inter PABX link)*

The same as for Alcatel-Lucent OmniPCX Office Communication Server.

#### 3.4.6.5 *Number of Meet-me conferences*

With this license, the conference master is able to activate a Meet-me conference. Up to now, the number of Meet-me conferences is limited to one.

#### **3.4.6.6**    *Enhanced Automated Attendant*

It defines the license type chosen for Enhanced Automated Attendant: (No license, 1 tree license or 5 trees license)

### **3.4.7        Networking**

#### **3.4.7.1**    *Number of B channels*

The T2, DTL2 and PCM boards are the same. A strap defines the type of board . So all boards are treated with the same pricing.

The number of DTL b channels is counted. In case of an upgrade, a reset is necessary to take the new channels into account.

#### **3.4.7.2**    *B channels on MIX boards*

The number of b channels on MIX boards are counted to accept MIX boards in the limit allowed by the license. This means that when a MIX board appears and all b channels allowed by license are used, the MIX board is refused.

When the license is set to 0, only 0/4/4 MIX board are accepted.

In case of upgrade, a reset is necessary to take into account new MIX boards. In default state reached after 30 days of temporary state, the license 2B channels on mixed board is set to 24.

### **3.4.8        Internet access (relevant up to R7.1)**

Several services are defined in the license:

- Access & Intranet
- E mail server
- VPN (Virtual Private Network)
- Proxy (WEB caching & Access Control)
- DSL
- Lan to LAN
- Backup (backup all the system: IA, call handling, VMU )
- URL filters download (download of black lists and white lists)
- Statistics data upload (dump of log files to produce statistics)
- Web & File server (Intranet web server and file server)

### **3.4.9        Web applications**

#### **3.4.9.1**    *WCA (relevant up to R7.1)*

WCA (Web Communication Assistant) license defines the number of users of three applications. The three applications contained in the package WCA are:

- web mail
- voice mail
- dialer

#### 3.4.9.2 *Number of MyIC Office sessions (from R8.1)*

This application is used on a PC to access to some configuration parameters of the terminal (diversion,...), to access to the call log, to access to the voice mail and to make a call.

The system controls the number of opened sessions in the mode of a "floating license" : when the maximum number of allowed sessions (defined by the present item) is reached, the next login attempt is rejected.

#### 3.4.10 **SNMP**

SNMP (Simple Network Management Protocol) license allows to control «activation» of this service.

#### 3.4.11 **RAS (relevant up to R7.1)**

Control of the virtual S0. The number of B channels is counted.

Need of a downloading item RAS to have the service on a CoCPU. (2 access on ASPEN main, 2 access on CPU III main, 16 access on CoCPU)

#### 3.4.12 **Lan telephony**

In the license, two counters are defined:

- The number of TSC/IP and number of PIMphony IP: Their processing is the same as for other sets.
- The number of allowed NOE/IP are included into the TSC/IP counters.

#### 3.4.13 **VoIP Gateway**

##### 3.4.13.1 *Number of VoIP channels (from R8.0)*

From R 8.0 the pricing of VoIP channels is not based on hardware purchase, but on VoIP channel licenses purchase.

*Note:*

*To get a number of VoIP channels belonging to the range [17-48], an Armada daughter board is necessary.*

The VoIP channels are available as well for trunks as for subscribers. The number of VoIP channels available for subscribers can be deduced with the formula:

number of VoIP channels for subscribers = number of VoIP channels – number of VoIP channels for trunks

When the system starts, the number of available VoIP channels is indicated in OMC

In the **VoIP parameters** window -> **General index** , under the label **Number of VoIP-subscriber channels**, because all the VoIP channels are allocated to subscribers and

none are allocated to the VoIP trunks.

If the number of VoIP trunks are increased (assuming that the key contains provisions for VoIP trunks), the number of VoIP channels for subscribers decreases correspondingly. Thus, the addition of Number of VoIP-subscriber channels and Number of VoIP-trunk channels is the number of VoIP channels paid for by the customer.

#### 3.4.13.2 Number of VoIP trunks channels

By default, the system starts with **0** trunk.

The number of trunks can be configured by OMC, in **VoIP parameters** window, **index General**, with the label **Number of VoIP-trunk channels**.

The license gives the maximum number of VoIP trunks, which, from R8.0, cannot be greater than the number of VoIP channels purchased.

### 3.4.14 Supplementary information

Supplementary information defines if the VoIP is running on the main CPU or on an application board (not in R8.0). Voice mail and Automated attendant

Three values allow limiting Voice mail and Automated Attendant features.

- The Number of ports.  
They are common to voice mail and automated attendant. In the default state, two ports are created. They are in the attendant default group and in the first hunting group.  
**For example:** If by configuration, you remove the two ports from the default attendant group because you do not have automated attendant (it is not mandatory).  
Then, if there is a SWL upgrade, which permits 4 ports and automated attendant, you will need to create two new ports, present in the attendant default group and in the first hunting group. But the two previous ports are not updated (not present in the attendant group).  
If number of VMU ports is set to **0**, the system is forced to external VMU mode.
- Messages storage capacity  
Maximum capacity storage for messages (steps of 10 minutes)
- Automated attendant flag  
In the description of license, the flag is open or closed. If the flag is «open» but there is not enough memory, the service will be opened but it will not be possible to configure the Info Messages. On OMC the service will be «not configurable».  
If the service is not configurable, only the company greetings (day and night) can be configured, but the length of each is reduced from 2 minutes to 16 seconds.
- Audiotext  
If the service is not allowed, the call will be routed to the attendant.
- Fax switching  
If the service is not allowed, the calls are routed to the voice set.
- Mailbox greetings  
If the service is opened, the users can record their greetings.
- Distribute list namen  
If the service is opened, the configuration is allowed.
- Record on line
- Remote customization  
If the service is opened, the remote customization is allowed: personal assistant

configuration, external notification, mailbox configuration.

All the services which need memory, can be reduced (message storage capacity, number of mailbox greetings, distribute list name, record on line)

### 3.4.15 Music on Hold (MOH)

#### 3.4.15.1 MOH Length

The MMC has to control the duration of the recording.

#### 3.4.15.2 MOH for multiple entities

If the value N of that service is greater to 1 and less or equal to 4, it is possible to create on the system N entities, each one having its own Music On Hold. Moreover, it is possible to establish calls inter-entities.

### 3.4.16 Metering

#### 3.4.16.1 Number of tickets for NMC

Only the number of NMC tickets is controlled by licenses.

In case of upgrade, a reset is necessary.

#### 3.4.16.2 Call accounting over IP

This license is required for printing on the fly or for using external accounting applications. Output data will be provided in a simple XML format interface.

This license must be opened for OHL needs.

#### 3.4.16.3 Local calls (from R8.1)

Specific license for each country

### 3.4.17 Languages

The number of languages defines the maximum of language used. It is possible to install more languages (for example 4) but if the number of languages defined in the license is 2, only the 2 first languages will be proposed on sets.

### 3.4.18 Pay Per User (PPU)

This license indicates that Pay-Per-User option is used.

In this mode, **OPEN** state has a limit date. At the end of the validity period (checked with PPU Ending Date value contained in the license key), the system goes into **PPU TEMPORARY STATE** for a maximum of 30 days.

At the end of this period, if the **PPU Ending Date** is still not valid, the system goes into **DEFAULT STATE**.

The 30 days period is not the same as the “normal” **TEMPORARY STATE**. When a new license key with a valid PPU Ending Date is uploaded, the **PPU** temporary state counter will reset and can be used with the default value (30 days) for the next time (in “normal” temporary state, the counter is never reset). Some Historical alarms are generated one month before the



PPU ending date and when entering to **PPU** temporary state.

#### 3.4.18.1 *PPU Ending Date*

This field is only relevant when Pay-Per-User option is activated. It represents the end of the validity period of the license key. After this date, license has expired and after a temporary period, system goes to default state.

It is important to notice that, PPU mode (and the validity date) manages the control of all the licensed services. There is no possibility to unitary close or open a single service.

If the PPU Ending date contains a null value, the license is considered as infinite. In this particular case, there are no validity date checks.

#### 3.4.18.2 *Users number*

This field is only relevant if Pay-per User option is used. This value is not used or controlled by the system. The number of devices is only controlled with the physical device counters (Analog sets, Mobile set, TSC-IP sets ...).

This licenses is only used in the system to display, the number of users contained in the license, in OMC license screen.

### 3.4.19 **ACD**

The Alcatel-Lucent OmniPCX Office Communication Server provides an embedded Linux based ACD (automatic call distribution) solution. The following capacities are defined through licenses: 1) 2) 3)

1. The Number of group: 8 groups
2. The number of active agents: 5, 10, 20 or 32
3. Statistic module: active or not
4. DAM: 0 -> 32
5. Supervisor: 0 -> 4

In the case of an upgrade, a reset is necessary.

### 3.4.20 **Managed services**

Proxy H323 services allowed or not.

In the case of an upgrade, a reset is necessary.

### 3.4.21 **Mobility on GSM**

For the related items (MCE, NCC, My IC Mobile), when eLP builds a MAIN software key, each time the item is incremented, it also increments the Nomadic counter in the CTI software key.

#### 3.4.21.1 *Number of My IC Mobile (from R8.1)*

My IC Mobile is an application running on an Apple iPhone or an Android phone, which makes the Apple iPhone or Android phone become an OmniPCX Office subscriber.

In OMC, the creation of a new My IC Mobile for iPhone subscriber or a new My IC Mobile for Android subscriber is refused if the total number of existing such subscribers has reached the

maximum value indicated by the present license item.

#### **3.4.21.2** *Number of SIP phone enhanced (from R8.1)*

The subscribers of type SIP phone enhanced can use more services than a SIP phone subscriber. In OMC, the creation of a new SIP phone enhanced subscriber is refused if the number of existing such subscribers has reached the maximum value indicated by the present license item.

#### **3.4.21.3** *Number of SIP subscribers with TLS (from R8.1)*

The capability to establish a VoIP communication with the TLS feature is given to a SIP subscriber (SIP phone and SIP phone enhanced only in R8.1) via OMC. The system/OMC controls that the number of SIP subscribers with the TLS feature activated does not exceed the limit fixed by the present license item.

#### **3.4.21.4** *SDP transparency (from R8.1)*

This license item is a global parameter (on/off) that allows or not the SDP transparency in the SDP negotiation between 2 SIP end-points. The control is done by the system during the call establishment, if some conditions are verified.

#### **3.4.21.5** *UDA – LDAP (from R8.1)*

This license item is a global parameter (on/off) that allows or not, when a correspondent name is searched on 8082 My IC Phone and My IC Mobile for iPhone, to extend the search to an external LDAP server.

## 4.1 Presentation

### 4.1.1 Location of Unit

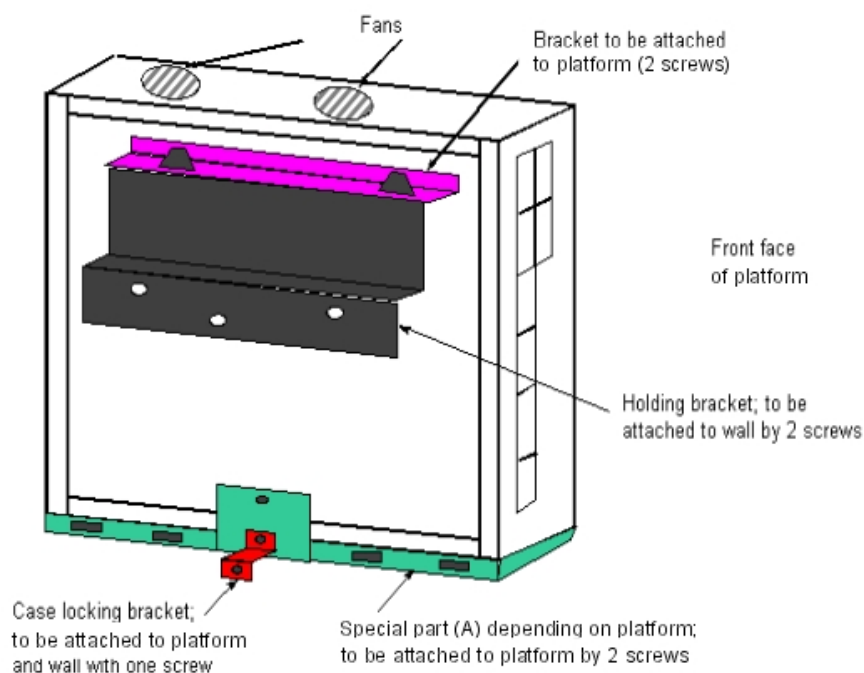
The Alcatel-Lucent OmniPCX Office Communication Server unit can be installed in three ways:

1. Fixed to the wall:
  - A kit is available for wall-mounting OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms.
  - A wall support (US version) is available for wall-mounting OmniPCX Office RCE Compact platform which can also be fixed directly to the wall. In both cases, use the hole drilling template supplied with the platform.
2. Mounted in a rack: the OmniPCX Office RCE Small, Medium, Large platforms are mounted in the rack using the fixing brackets supplied by the rack manufacturer, or using the optional 19" mounting kit (a kit is available for each platform type).
3. Placed on a table: no more than three units can be laid on top of each other.

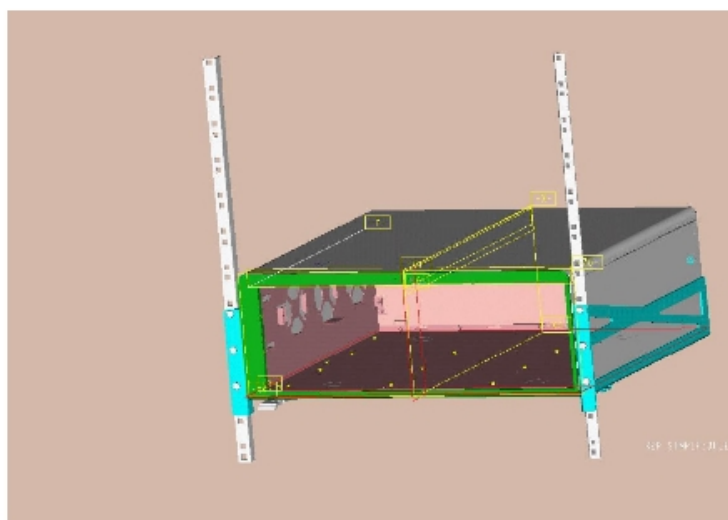
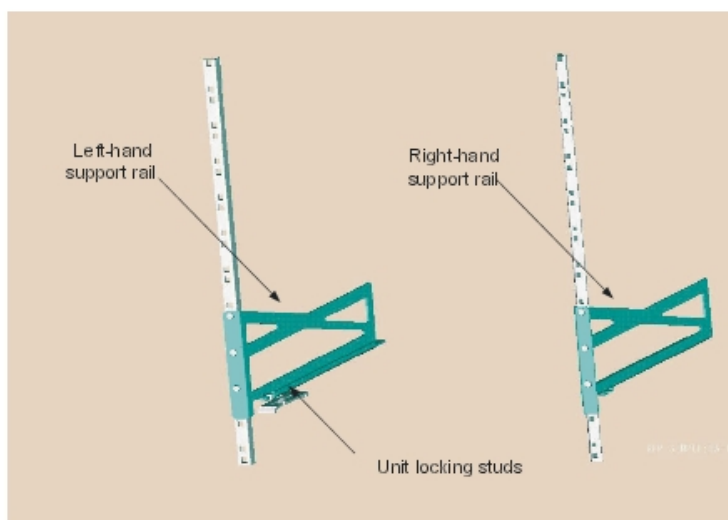
#### 4.1.1.1 Wall Mounting (OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms)

The enclosure comprises 4 parts.

After mounting, the space between the platform and the wall can be used for cables.



#### 4.1.1.2 Mounting in the 19" Rack



##### 4.1.1.2.1 Recommendations

Before installing the system in a 19" rack, you must verify that:

- The maximum static load (given by the manufacturer) of the 19" rack is greater than the overall weight of the equipment mounted or to be mounted in the rack.
- Moreover, the weight of the equipment must be evenly distributed between the brackets.
- If mounting the Alcatel-Lucent OmniPCX Office Communication Server platform results in exceeding the load on the front supports (generally the total weight divided by two), the platform must be placed on a fixed tray attached to the four supports of the rack.

## **4.1.2 Environment**

### **4.1.2.1 Climatic Conditions**

- **Operation**
  - **Temperature:** for maximum reliability, it is recommended you comply with an ambient temperature of between 5 and 40 degrees Celsius, with a maximum variation of 5 degrees Celsius per hour.
  - **Humidity:** the humidity must be in the range 10% - 80% (no condensation) with a maximum variation of 10% per hour.
- **Storage**
  - **Temperature:** the temperature must be kept between -20 and +70 degrees Celsius.
  - **Humidity:** the humidity must be kept in the range 10 - 95% (no condensation).

### **4.1.2.2 Vibration**

No vibration, even intermittent, may be transmitted to the equipment when running.

### **4.1.2.3 Site**

- Choose a dry, clean and well ventilated location.
- Maintain an ambient air flow to ensure normal ventilation. If the air flow is blocked or restricted, of the incoming air is too hot, overheating is possible.
- When installing the equipment in an enclosed 19" rack, verify that the rack is provided with a fan suited to the heat dissipation of the equipment installed. Maintain a minimum gap of 3 cm around the side ventilation holes (left and right sides), and of 10 cm minimum around the ventilation holes at the rear of the equipment. Verify that the air flow is not impeded on the sides of the rack.
- When fixing the system directly to the wall using the wall-mounting kit (OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms only), maintain a free space of at least 15 cm around the whole system. Ensure that no objects are placed on the upper part of the system to restrict the extraction of hot air. When installing several platforms, it is preferable to align them horizontally. When superposing them vertically, they should be separated by at least 10 cm.
- Verify that the cables connecting the Alcatel-Lucent OmniPCX Office Communication Server or other equipment, or the supports for the housing structure (19" rack for example) do not obstruct the air flow through the platform.
- A switchable 230 V or 110 V mains socket (according to country) - 50Hz (LNE) is required at less than 1 m from the platform unless it is installed in a rack in which case the integrated circuit breaker is used.
- Adequate lighting must be provided.

## **4.2 Connections and Cabling**

### **4.2.1 Detailed description**

#### **4.2.1.1 Output Connectors**

All outputs are made using **Female RJ45** connectors.



Front panel RJ45 female connector

#### 4.2.1.1.1 PowerCPU Board

RJ45 pin	1	2	3	4	5	6	7	8
LAN	TX+	TX-	RX+			RX-		
SLI1/SLI2	Ground	+12 V	CenRg A	ZA1	ZB1	CenRG B	ZA2	ZB2
AUX	Ground	+12 V	CenRg A			CenRG B		
CONFIG	CTS		RX	RMTRES	Ground	TX	DTR	RTS
MODULE1	TX+	TX-	RX+			RX-		
ISDN T01			TX+	RX+	RX-	TX-		
MODULE2	TX+	TX-	RX+			RX-		
ISDN T02			TX+	RX+	RX-	TX-		
AUDIO	Audio In A	Audio In B	Audio Ctrl A	Audio Out A	Audio Out B	Audio Ctrl B	Alarm A	Alarm B
DOORPHONE			DoorPhB1	DoorPhA1	DoorPhA2	DoorPhB2		

- LAN: 10/100/1000 base T Ethernet port (MDI-II/straight).
- SLI1/SLI2: Analog Z accesses from Mini-MIX board, General ringer; 12V output
- AUX: General ringer; 12V output
- CONFIG: RS232 for OMC.
- MODULE1: HSL1 link of HSL board for connection to module expansion 1
- ISDN T01: ISDN T01 port of Mini-MIX board
- MODULE2: HSL2 link of HSL board for connection to module expansion 2
- ISDN T02: ISDN T02 port of Mini-MIX board
- AUDIO: Interfaces Please wait message, Background music, Loudspeaker, Alarm
- DOORPHONE: Interfaces doorphone

#### 4.2.1.1.2 SLI Board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 16				ZA	ZB			

- 1 to 16: connecting analog Z terminals.

#### 4.2.1.1.3 UAI Board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 16 (UAI)				L1	L2			

- 1 to 16: connection of digital terminals or DECT 4070 IO/EO base stations.

#### 4.2.1.1.4 UAI-1 Board

RJ45 pin	1	2	3	4	5	6	7	8
1				L1	L2		0V	48V
2 to 16				L1	L2			

- 1 : connection of an EPS48 external power supply + connection of digital terminals or DECT 4070 IO/EO base stations.
- 2 to 16: connection of digital terminals or DECT 4070 IO/EO base stations.

#### 4.2.1.1.5 BRA Board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 8			TX+	RX+	RX-	TX-		

- 1 to 8: connection of T0/DLT0 basic access.

#### 4.2.1.1.6 PRA Board

RJ45 pin	1	2	3	4	5	6	7	8
NETW outputs	RX+	RX-		TX+	TX-			
PBX outputs	TX+	TX-		RX+	RX-			

- NETW: connection to the public network (TNL).
- PBX: use in private network with TX and RX twisted pairs.

#### 4.2.1.1.7 LANX and LANX-1 Board

RJ45 pin	1	2	3	4	5	6	7	8
Ports 1 to 15	RX+	RX-	TX+			TX-		
Up-Link	TX+	TX-	RX+			RX-		

- Ports 1 to 15: internal ports.
- Up-Link: LAN connection.

#### 4.2.1.1.8 LANX-2 Board

RJ45 pin	1	2	3	4	5	6	7	8
Ports 1 to 14	RX+	RX-	TX+			TX-		
GE1, GE2	TR0+	TR0-	TR1+	TR2+	TR2-	TR1-	TR3+	TR3-

- Ports 1 to 14: 10/100 BT ports.
- GE1, GE2: 10/100/1000 BT ports.

#### 4.2.1.1.9 APA Board

RJ45 pin	1	2	3	4	5	6	7	8
Output 1	ZSETB	ZSETA		LB-Ring	LA-Tip		ZB	ZA
Outputs 2 to 8				LB-Ring	LA-Tip			

- 1 : connection of network line 1, SLI interface and callback terminal
- 2 to 8: connection of other analog trunk lines

#### 4.2.1.1.10 DDI Board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 4				L-	L+			

- 1 to 4: connection of DDI analog trunk lines.

#### 4.2.1.1.11 ATA Board

RJ45 pin	1	2	3	4	5	6	7	8
Outputs 1 to 4				PEA	PEB			
SLI outputs				ZA	ZB			
PHONE outputs				ZSETA	ZSETB			

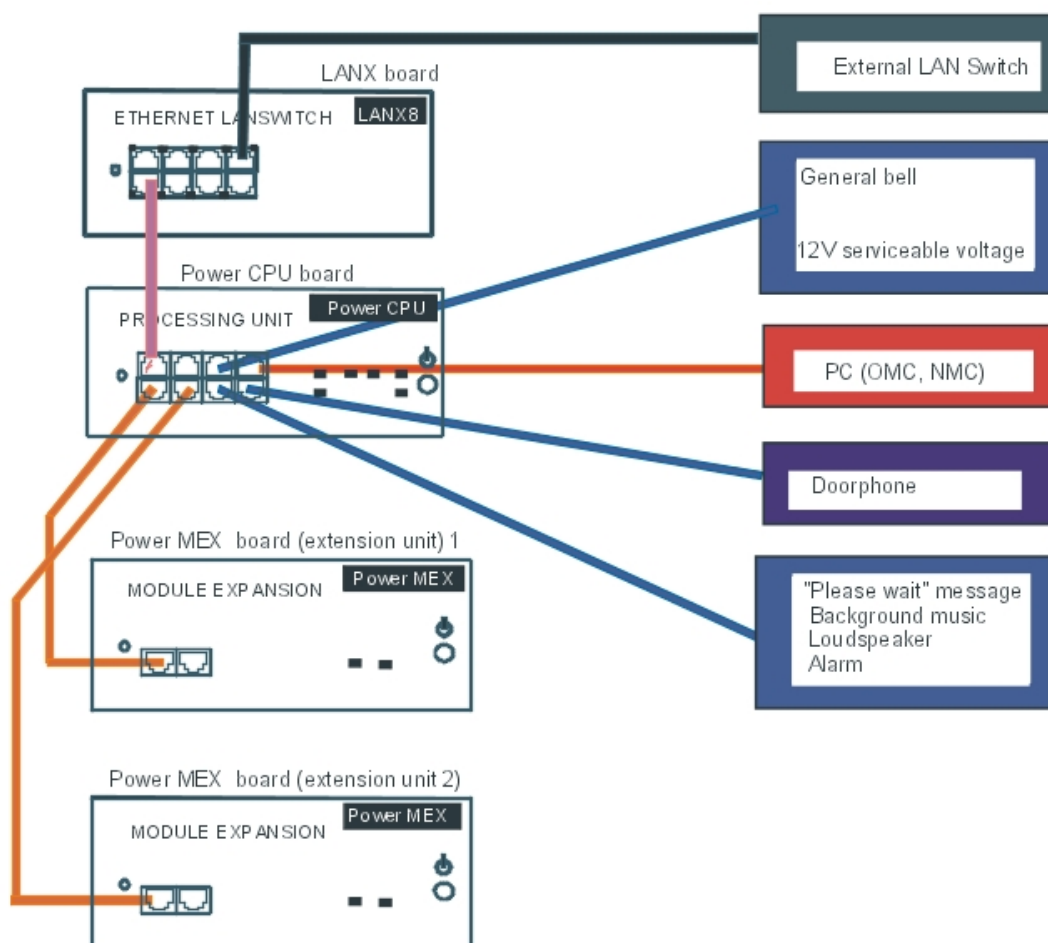
#### 4.2.1.2 Types of Cable to Use

Access	Type	Impedance
Digital, Z, T0, LR	UTP, FTP or STP, Category 3 or 5	100 or 120 ohms
T2	UTP, FTP or STP, Category 3 or 5	120 Ohms
T1	UTP, FTP or STP, Category 3 or 5	120 Ohms
Ethernet	FTP or STP, Category 5	100 Ohms
HSL	STP supplied with the product, Category 5	100 Ohms

- UTP: Unshielded Twisted Pairs
- FTP: Foiled Twisted Pairs
- STP: Shielded Twisted Pairs

#### 4.2.1.3 Connection of PowerCPU Board





#### 4.2.1.4 Connecting Terminals

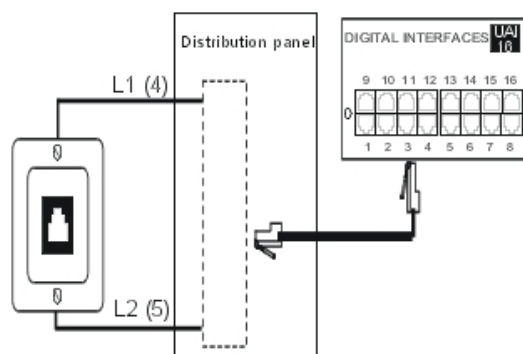
##### 4.2.1.4.1 Connection of Digital Terminals

The terminals are equipped with a cable and a self-acting switch that plugs into the wall socket. Each terminal is connected up by a pair of 0.5 or 0.6 mm diameter wires.

System - digital terminal distances:

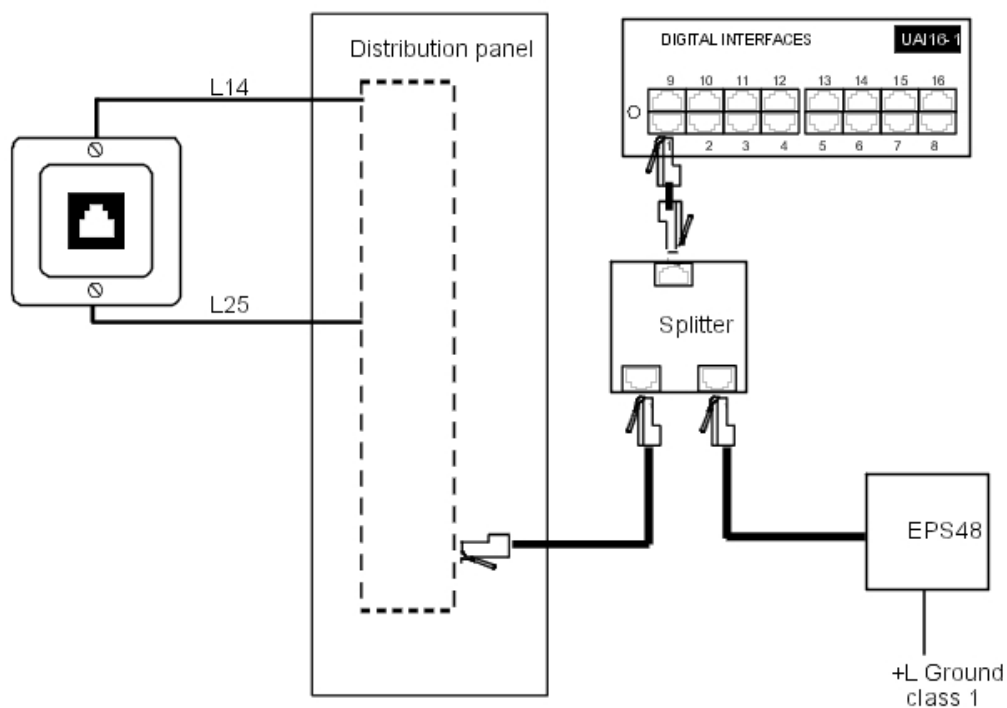
- 0.5 mm SYT type cable: 800 m (station without option) or 600 m (station with S0 or Z option).
- 278 type 0.6 mm cable: 1200 m (station without option) or 850 m (station with S0 or Z option).

Connection without External Power Supply



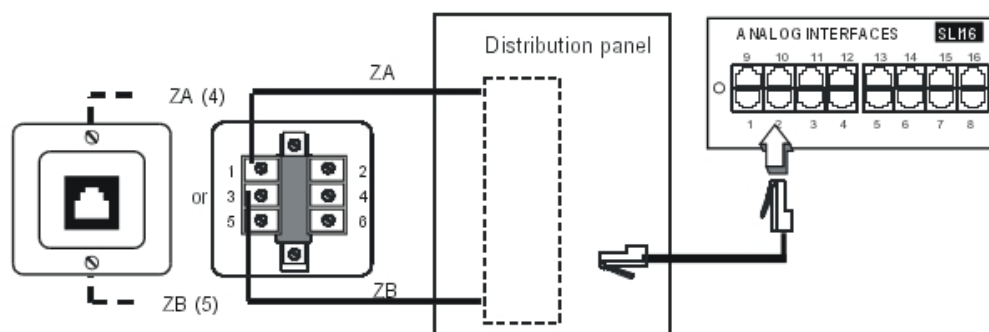
### Connection with External Power Supply

A splitter allows the separation of the UA peripheral connection and the EPS48 external power supply.



#### 4.2.1.4.2 Connecting Analog Terminals

The terminals are equipped with a cable and a self-acting switch that plugs into the wall socket. Each terminal is connected up with a pair of 0.5 or 0.6-mm diameter wires (the maximum distance with 0.5-mm cabling is 1.3 km).

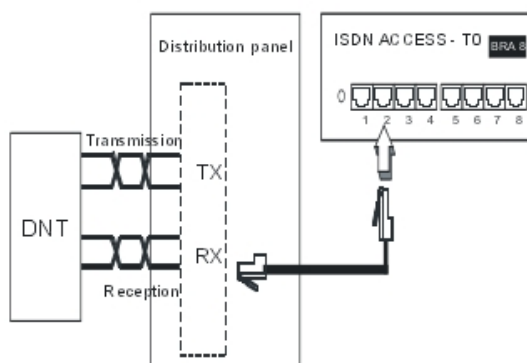


### 4.2.1.5 Connection to the Public Network

#### 4.2.1.5.1 Digital Public Network via T0 Access (or DLT0 Private Network)

The Alcatel-Lucent OmniPCX Office Communication Server system can be installed near the digital network termination or at a certain distance (up to 350 m), as required.

#### Connection without T0/S0 Forwarding



#### **Caution:**

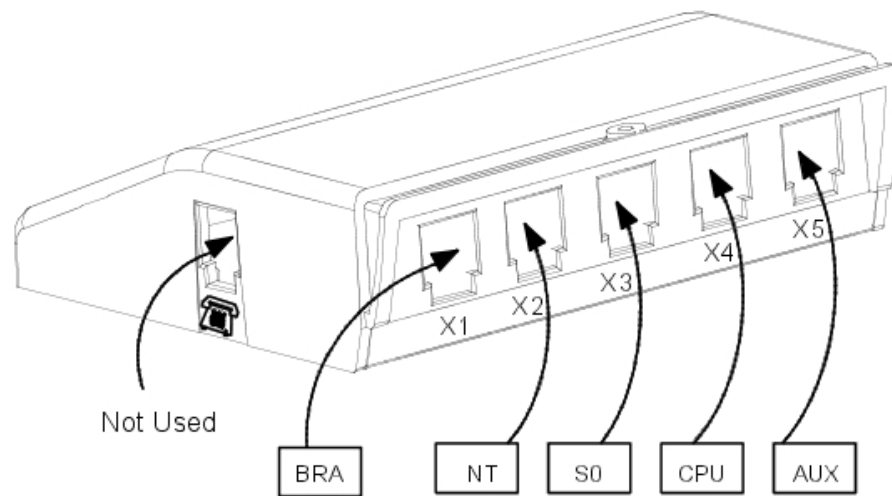
**In T0 Point-to-Point installations, the Alcatel-Lucent OmniPCX Office Communication Server system MUST BE the terminating element of the bus and any other terminating resistor MUST BE removed.**

#### Connection with T0/S0 Forwarding

In the event of a loss of tension or PowerCPU malfunction, the ISDN-EFM box allows a T0 access to be forwarded directly to a S0 station.

#### **Caution:**

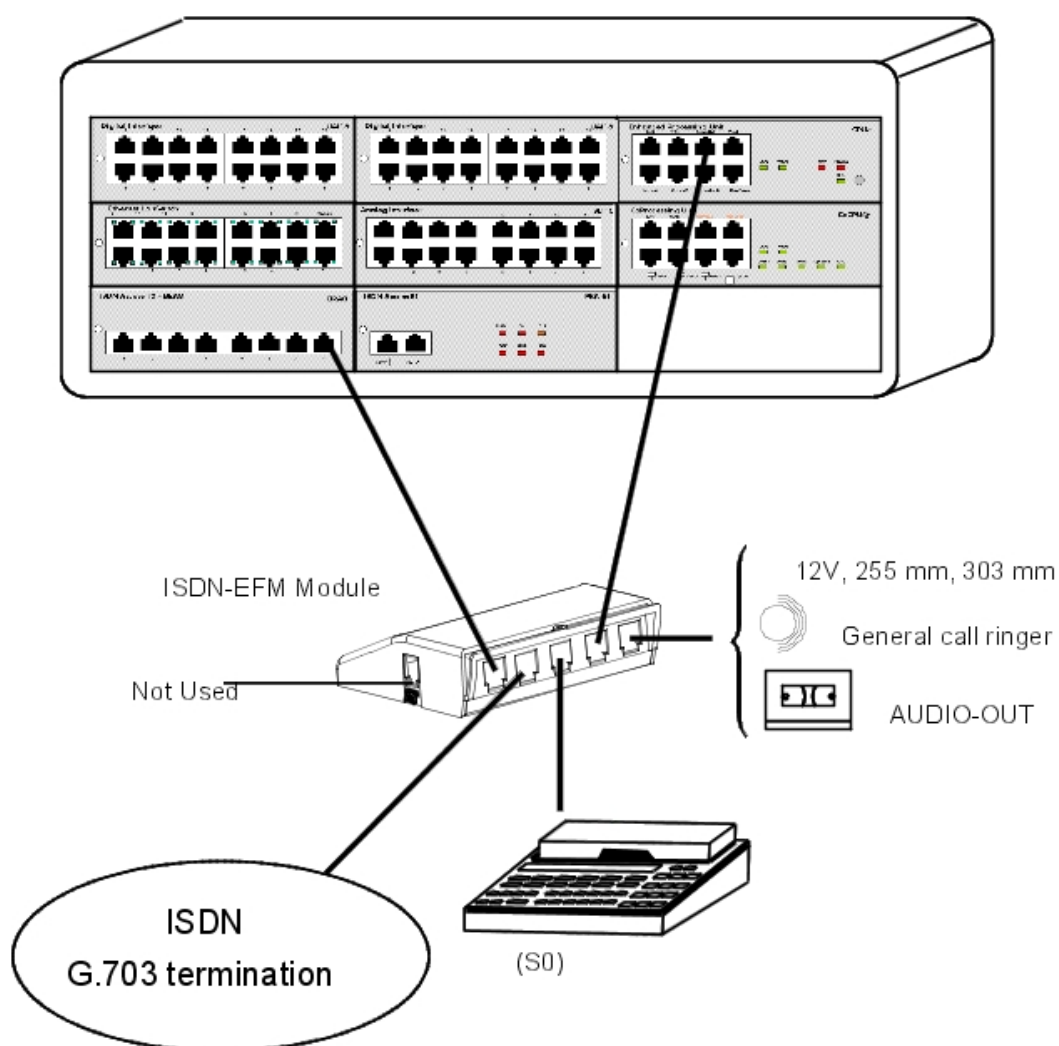
**The AFU-1 board (daughter board of the PowerCPU board) must obligatorily be fitted to detect the absence of power.**



The ISDN-EFM box must be installed as close as possible to the system (3 m maximum). All the box connections are made with straight RJ45-RJ45 cables.

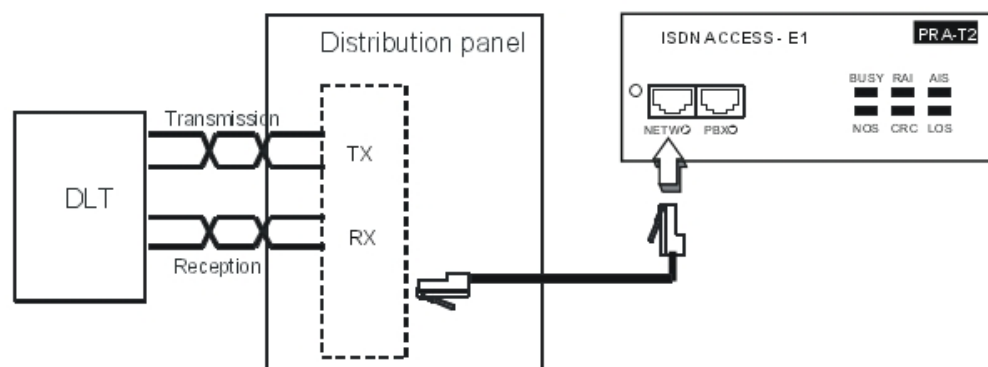
Output connector functions:

- **BRA:** connection of T0 access to be forwarded.
- **NT:** connection of ISDN network termination.
- **S0:** connection of forwarding S0 station.
- **CPU:** connection of the AUDIO and AUX connectors of the PowerCPU board.
- **AUX:** connection of Audio out, Alarm, General bell and 12 V use auxiliaries.



#### 4.2.1.5.2 Digital Public Network by T1 or T2 Access

The diagram below shows a PRA-T2 board, but is equally applicable for a PRA-T1 board.



The PRA board is connected to a digital line termination (DLT) by 2 symmetrical twisted pairs.  
Cable impedance: 120 Ohms +/- 20% between 200kHz and 1MHz; 120 Ohms +/- 10% at 1 MHz.

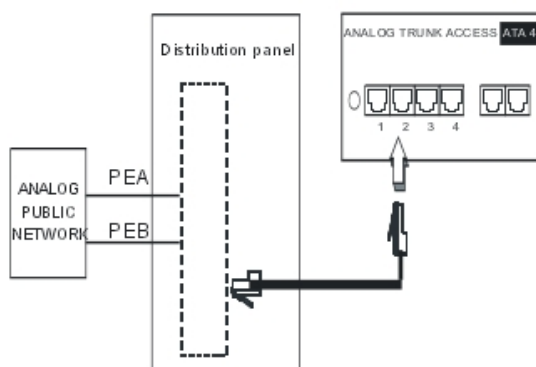
*Remark:*

*We recommend using an L120-series cable (or the L204 equivalent).*

The distance T1-DLT or T2-DLT is limited by the amount of loss between the DLT and T1/T2, which must not exceed 6 dB at 1024 kHz.

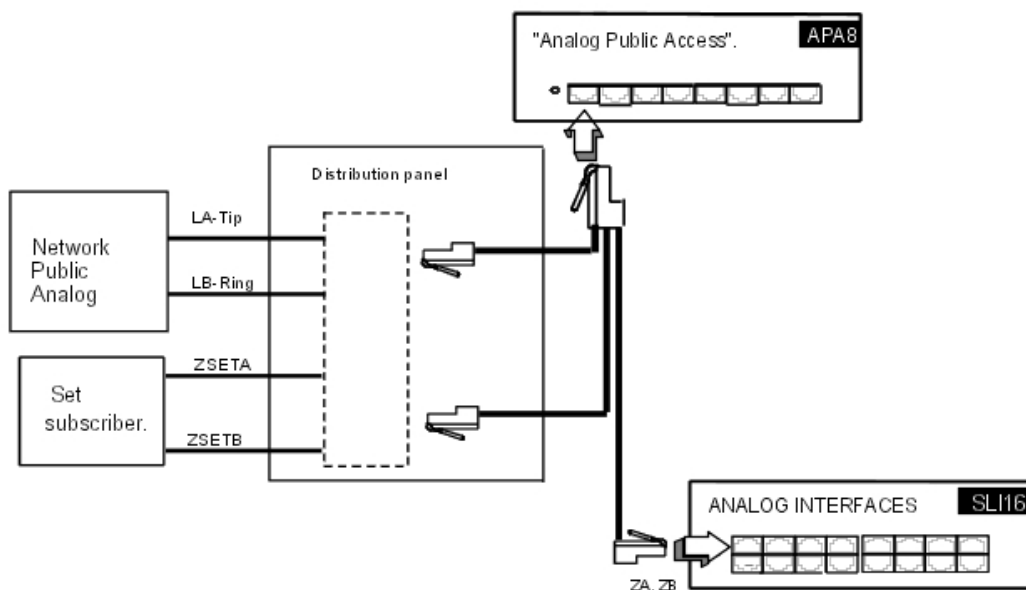
#### 4.2.1.5.3 Analog Public Network

##### Without TL Forwarding

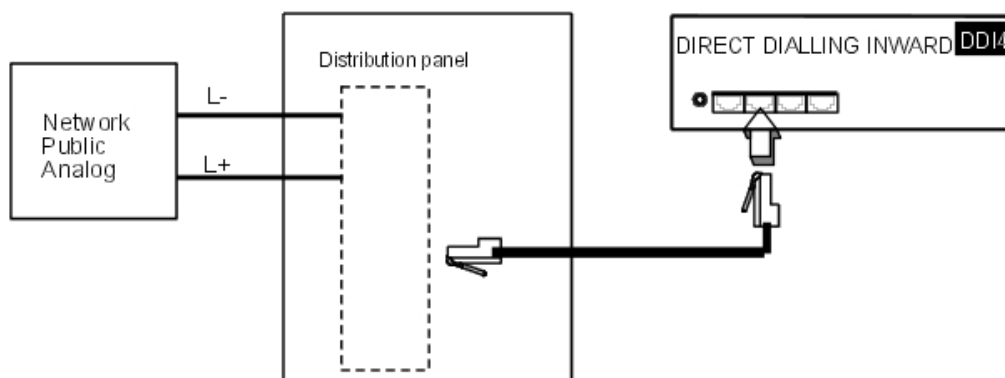


##### With LR Forwarding

In the event of a loss of tension or PowerCPU malfunction, this solution allows forwarding of the analog line, connected to the APA board's equipment 1, to an analog station.

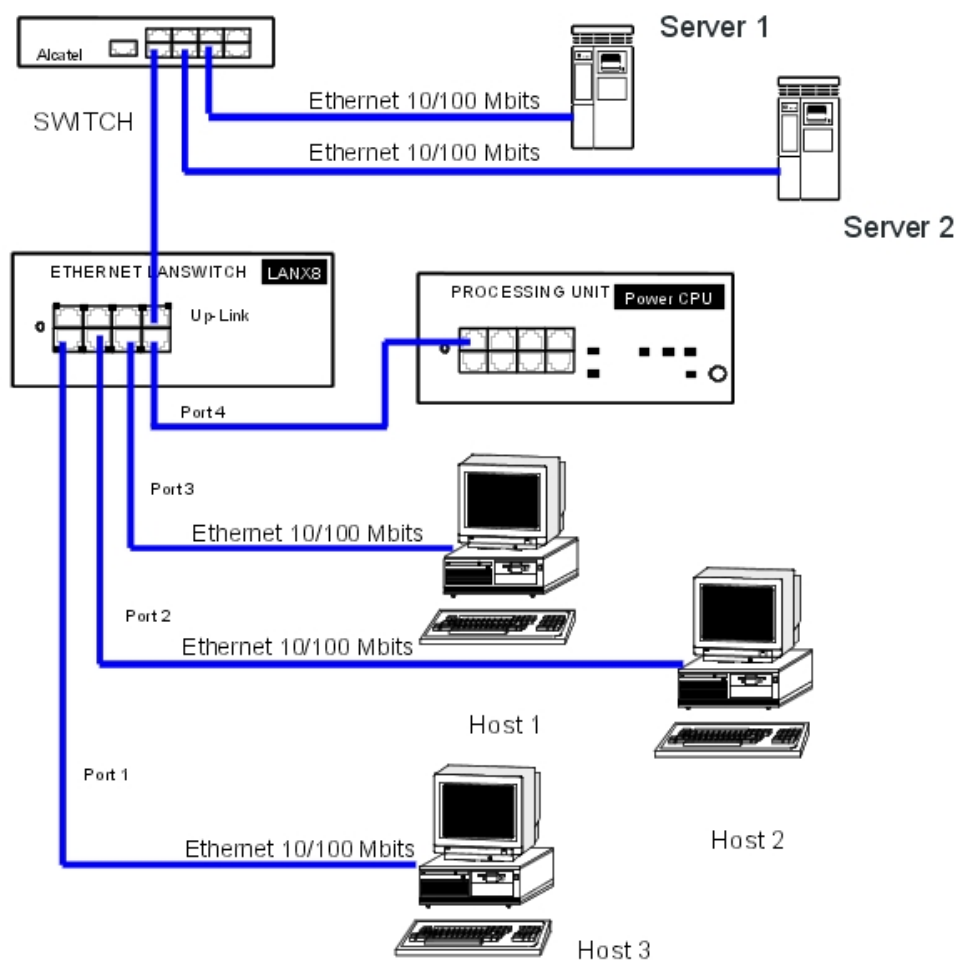


#### 4.2.1.5.4 Analog Public Network - Direct Dialing In.



#### 4.2.1.6 Lan Connection

The LANX8/LANX16 board is used to connect servers, PCs, IP terminals and external switches.



Category 5 cable, FTP or STP, impedance 100 Ohms: maximum length 100 m.

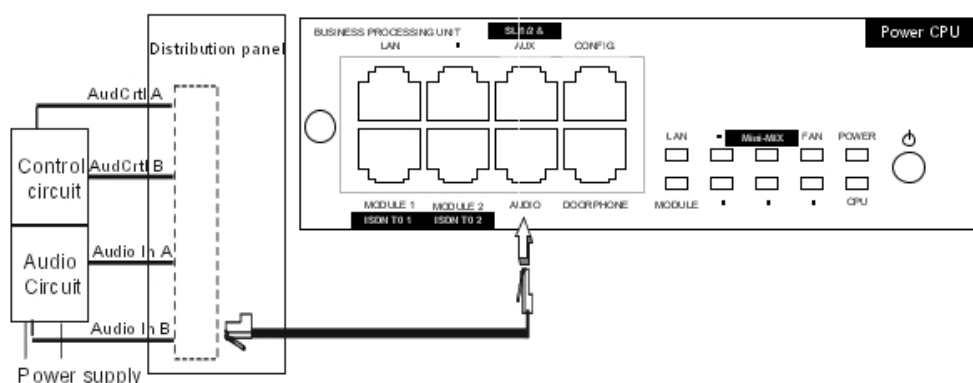
#### 4.2.1.7 Connecting Auxiliary Equipment

All auxiliary equipment is connected via the AUDIO, AUX and DOORPHONE connectors of the PowerCPU board.

##### 4.2.1.7.1 Connecting a Please-Wait Message Player

This is connected via the **AUDCTRL** output (control contact open when idle) and the **AUDIN** input of the AUDIO connector.






### Audio Input Characteristics:

Input impedance : 600 Ohms

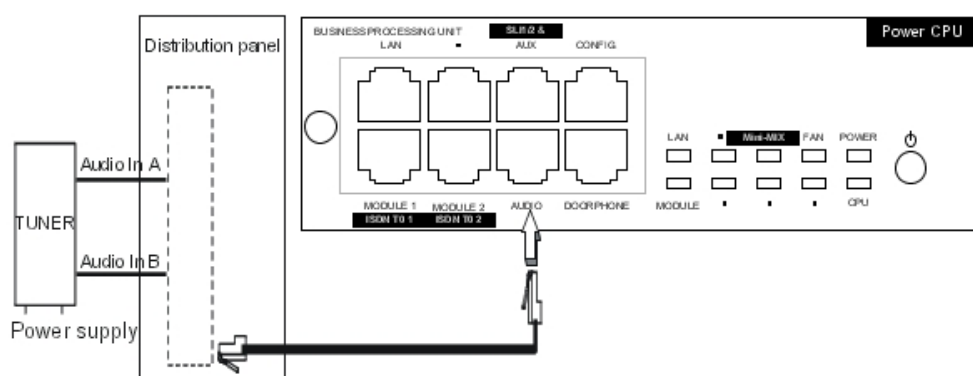
### Fuse Characteristics:

- Max. power : 10 W
- Max. voltage : 60 V
- Max. current : 500 mA

 The contacts of the alarm and doorphone controls have the same electrical characteristics as those indicated above.

#### 4.2.1.7.2 Connecting a Background Music Tuner

This is connected via the **AUDIN** input of the AUDIO connector.



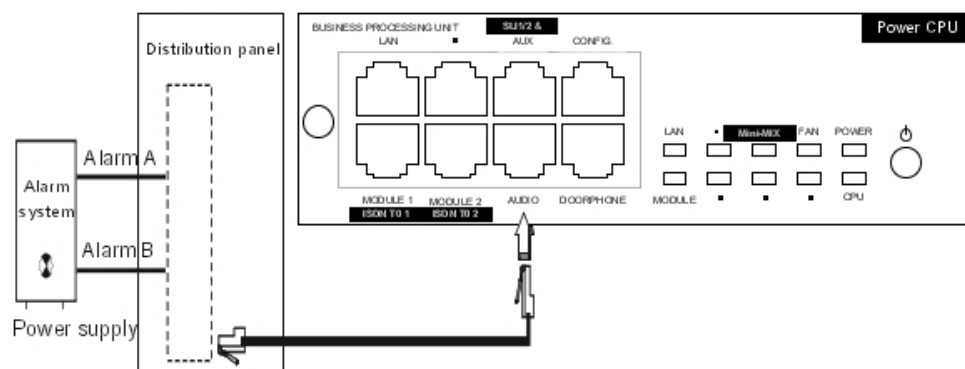
### Audio Input Characteristics:

- Input impedance : 600 Ohms
- Input level: access + 4.7 dBr or + 15 dBr

#### 4.2.1.7.3 Connecting an Alarm

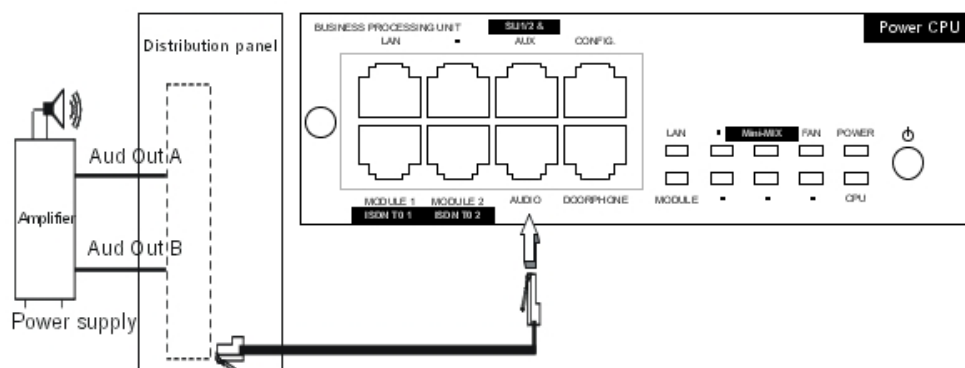
The alarm is activated in the event of a false stopping of the system.

It is connected via the **ALARM** output (control contact closed when idle) of the AUDIO connector.



#### 4.2.1.7.4 Connecting a Broadcast Loudspeaker

Broadcast loudspeakers are connected via the **AUDOUT** output of the AUDIO connector.

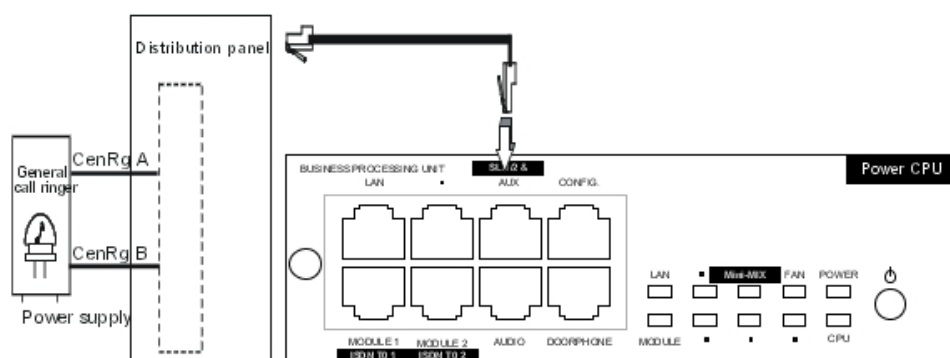


Audio Output Characteristics:

- Output impedance: < 500 Ohms
- Output level: access + 3 dBr

#### 4.2.1.7.5 Connecting a General Ringer

The general ringer is connected via the **CENRG** output of the AUX connector.



### 4.2.1.7.6 Connecting a Doorphone

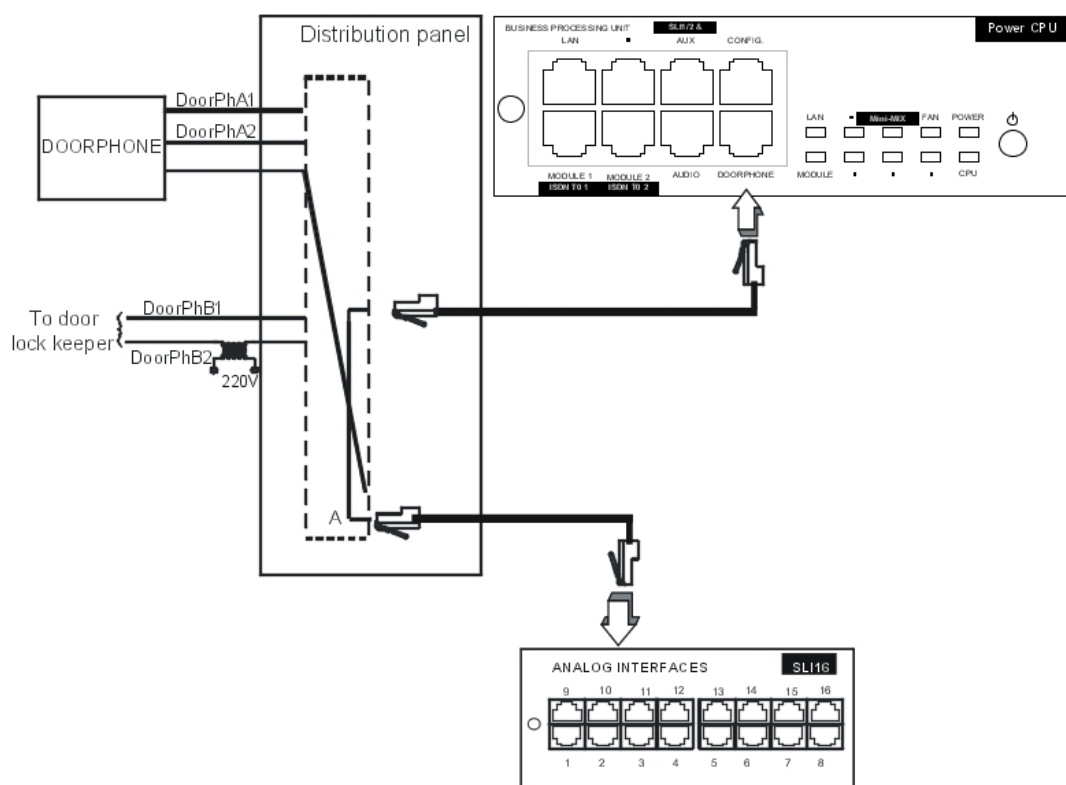
2 doorphone types are available, depending on the operating mode used:

- Type A: relay-controlled doorphones (e.g. NPTT)
- Type B: doorphones controlled by MF Q23 signals requiring an SLI interface (e.g. TELEMUNI and UNIVERSAL DOORPHONE)

The doorphone interface comprises an intercom and an optional latch powered by the mains supply through a SELV (Safety Extra Low Voltage) transformer.

It is connected via the **DOORPHA** and **DOORPHB** outputs (control contacts open when idle) of the DOORPHONE connector.

Connecting a NPTT Doorphone

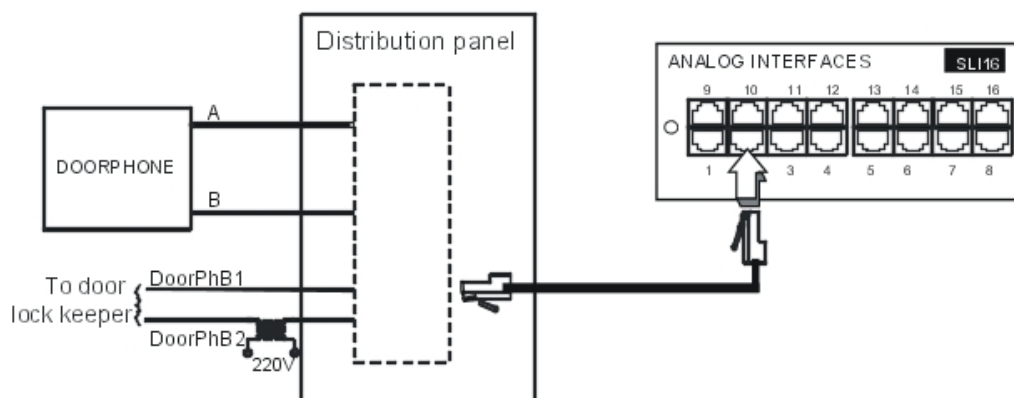


- A single doorphone with doorstrike may be connected to the system.
- The system also allows for the connection of 2 doorphones without latch.

### Connecting a Telemini and Universal Doorphone

These doorphones require the use of a Z station interface.

- Several of these doorphones can be connected to the system; the limit is determined by the maximum number of analog stations the system can support.



#### 4.2.1.7.7 Using the 12V Output

The **GROUND** and **+ 12V** outputs on the AUX connector allow for the connection of an external 12V device with a maximum energy consumption of 150 mA (OmniPCX Office RCE Small and OmniPCX Office RCE Medium) or 300 mA (OmniPCX Office RCE Large).

### 4.3 Power Supply

#### 4.3.1 Installation procedure

##### 4.3.1.1 Connecting an External EPS48 Power Supply

The UAI16-1 board can optionally be powered by an external EPS48 power supply depending on the requirements for remotely powering the terminals.

The mains socket for the external EPS48 power supply must be installed as near as possible to the system and be easily accessible.

**Caution:**

**Only use the recommended power supply provided. It is guaranteed to operate at 40°C for a current load of 0.85A. Its use is limited to UAI16-1 boards.**



The power supply lead is used as the master switch. The power supply socket must be located or installed close to the hardware and allow easy access.



The power supply cord is used as the main disconnect device, ensure that the socket-outlet is installed near the equipment and is easily accessible.

##### 4.3.1.2 Battery Implementation

Alcatel-Lucent OmniPCX Office Communication Server is supplied with one or more integrated batteries; they are mounted and fixed with a solid bar on the rear plate.

**Caution:**

**OmniPCX Office RCE Compact does not have integrated batteries.**

##### 4.3.1.2.1 Battery Switch

The batteries are disconnected during transport using a switch soldered onto the power supply board. When the mains cable is inserted in the socket, the switch is closed by a lever incorporated in the mains socket.

##### 4.3.1.2.2 Battery Fuse

The battery fuse is located on the board and requires the back panel to be dismantled to gain access. It has the following characteristics:

- OmniPCX Office RCE Small and OmniPCX Office RCE Large: 6.3 A fast, low cutoff (F 6.3 AL/250 V).
- OmniPCX Office RCE Medium: 10 A fast, low cutoff (F 10 AL/250 V)

##### 4.3.1.2.3 Battery Replacement

Refer to the Maintenance form in the manual.

#### 4.3.1.3 Connecting an External Battery Unit

Alcatel-Lucent OmniPCX Office Communication Server hardware units (OmniPCX Office RCE Small, Medium, Large and OmniPCX Office RCE Compact) can be powered by external batteries. The use of external batteries is an alternative to the UPS solution. It ensures that the Alcatel-Lucent OmniPCX Office Communication Server systems are backed up. This solution offers a maximum autonomy of 8 hours.

##### 4.3.1.3.1 Alcatel-Lucent OmniPCX Office Communication Server Platforms that accept External Batteries

The following platforms can be powered by external batteries:

Platform (with power supply)	Reference
OmniPCX Office RCE Compact platform	3EH 08271 AA
OmniPCX Office RCE Small platform with 110-230V power supply	3EH 08227 AA
OmniPCX Office RCE Medium platform with 230V power supply	3EH 08228 AA
OmniPCX Office RCE Medium platform with 110V power supply	3EH 08228 AB
OmniPCX Office RCE Large platform with 230V power supply	3EH 08229 AA
OmniPCX Office RCE Large platform with 110V power supply	3EH 08229 AB



Before using external batteries, first remove any internal batteries installed in the platform (supplied in the OmniPCX Office RCE Small, Medium, Large platforms by default).

##### 4.3.1.3.2 Hardware

External battery units are available in different versions. The required version depends on your Alcatel-Lucent OmniPCX Office Communication Server platform, as shown in the table below.

Alcatel-Lucent OmniPCX Office Communication Server platform	External battery unit	Battery capacity	Reference
OmniPCX Office RCE Large	36V, rack version	Up to 6 batteries	3EH 76155 AB
	36V, stack version	Up to 6 batteries	3EH 76177 AC
OmniPCX Office RCE Medium OmniPCX Office RCE Small	12V, rack version	Up to 3 batteries	3EH 76155 AA
	12V, stack version	Up to 3 batteries	3EH 76177 AB
OmniPCX Office RCE Compact	12V, 4-hour, stack version	1 battery	3EH 76177 AA
	12V, 8-hour, stack version	Up to 2 batteries	3EH 76177 AD

*Note:*

*The external battery units for OmniPCX Office RCE Small, Medium, Large platforms are pre-wired and*

delivered with inter-battery connectors.

In addition, you will need:

- 12V - 7Ah batteries (reference: 3EH 76156 AA)
- A connection kit (reference: 3EH 75031 AA) for connecting the external battery unit to the Alcatel-Lucent OmniPCX Office Communication Server platform.

#### 4.3.1.3.3 Power Supply Reference

Type	Reference
110-230V power supply for OmniPCX Office RCE Small platform	3EH 05009 AC
230V power supply for OmniPCX Office RCE Medium platform	3EH 05012 AC
110V power supply for OmniPCX Office RCE Medium platform	3EH 05010 AC
230V power supply for OmniPCX Office RCE Large platform	3EH 05013 AC
110V power supply for OmniPCX Office RCE Large platform	3EH 05011 AC

#### 4.3.1.3.4 Installation of External Batteries for OmniPCX Office RCE Small, Medium, Large Platforms

You must first prepare the external battery unit for use and then connect this unit to the platform. These two phases of installation are presented separately below.

You will have to choose the appropriate preparation procedure, according to whether you have a rack or stack version of the external battery unit.

The connection procedure is the same for OmniPCX Office RCE Medium and OmniPCX Office RCE Large platforms, but is different for OmniPCX Office RCE Small platforms.

##### Preparing an External Battery Unit (Rack Version)

Before starting the installation, note that:

- External batteries must be of the same type, must be supplied by the same manufacturer and be from the same batch run.
- Batteries must be charged prior to installation.

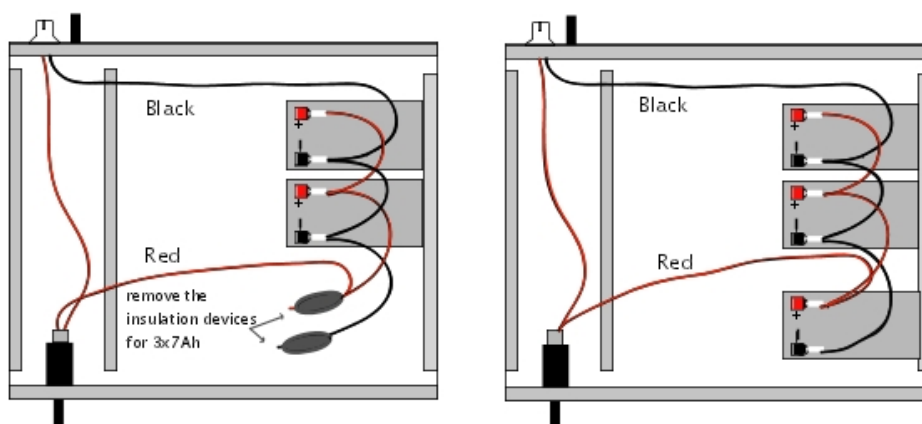


Figure 4.24: Wiring Diagram of a 12V External Battery Rack Unit (2 or 3x7Ah in parallel)

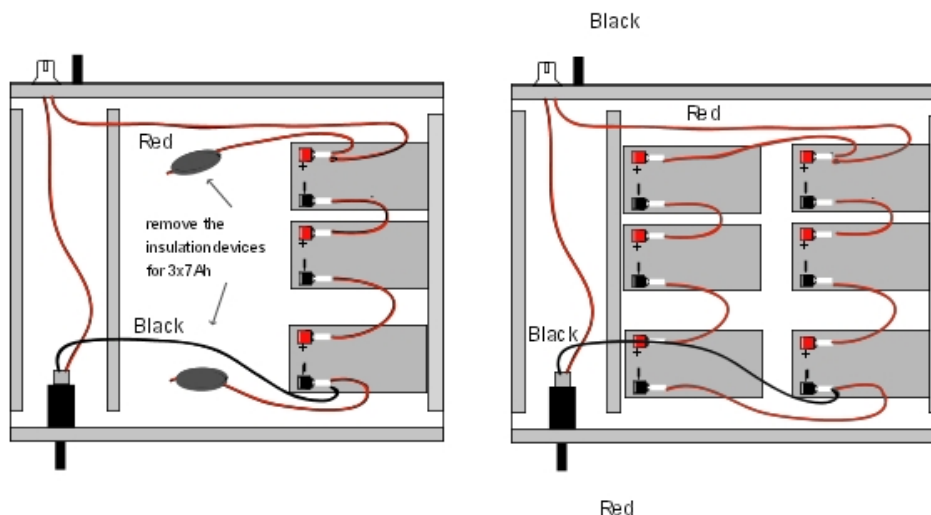


Figure 4.25: Wiring Diagram of a 36V External Battery Rack Unit (1 or 2x7Ah in parallel)



This type of unit is only used for an OmniPCX Office RCE Large platform.

### Procedure

Position the 12V - 7Ah external batteries in the battery rack unit (maximum 3 batteries for an OmniPCX Office RCE Medium platform and 6 batteries for an OmniPCX Office RCE Large platform).

1. Open the external battery unit and position the batteries vertically in the unit.
2. Make all the connections after having removed, if necessary, the insulation devices from the connectors that are used.
3. Place the batteries flat in the unit and close it.
4. Turn off the switch, and check the battery voltage directly on the connector at the rear of the unit.

### Preparing an External Battery Unit (stack Version)

Before starting the installation, note that:

- External batteries must be of the same type, must be supplied by the same manufacturer and be from the same batch run.
- Batteries must be charged prior to installation.

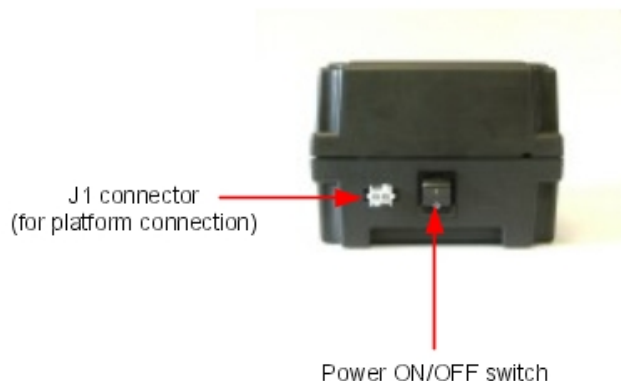
### Procedure for 12 V stack version (for OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms)

The 12 V stack version of the external battery unit can be used with OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms. It uses 12V - 7Ah batteries. Either one battery or three batteries can be installed in the unit.

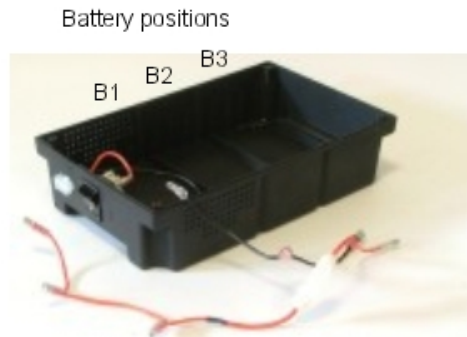
1. Ensure that the ON/OFF switch on the external battery unit is set to the OFF position (0 or



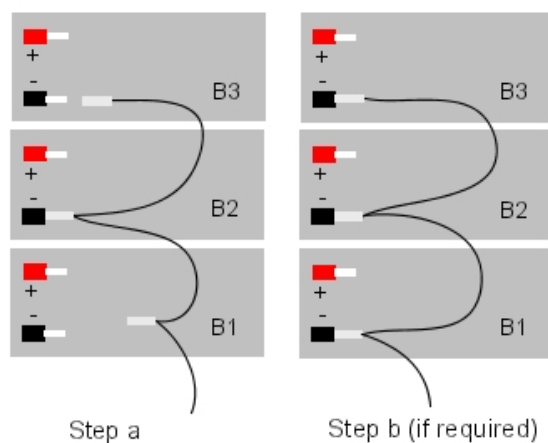
black) and that there is no cable connected to the J1 connector (see the figure below).



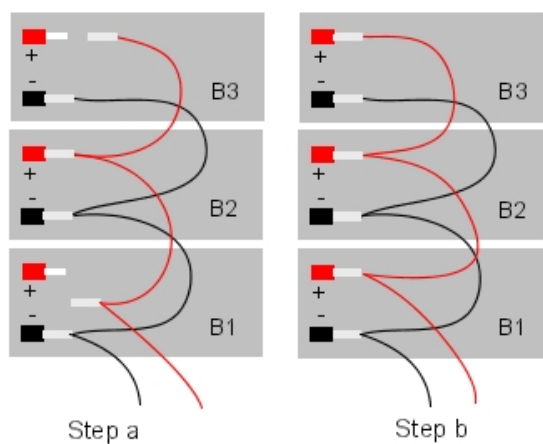
2. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).
3. Insert the batteries in the open unit as follows (also see the figure below):
  - a. Place the first battery in the middle position (battery B2).
  - b. If three batteries are to be used, place these batteries in the remaining positions (batteries B1 and B3).



4. Connect the negative (black) terminals of the batteries as described below (and shown in the figure below).
  - a. Connect the middle connector of the black wire to the negative (black) terminal of battery B2.
  - b. If required, connect the other connectors of the black wire to the negative (black) terminals of batteries B1 and B3.



5. Connect the positive (red) terminals of the batteries as described below (and shown in the figure below).
  - a. Connect the middle connector of the red wire to the positive (red) terminal of battery B2.
  - b. If required, connect the other connectors of the red wire to the positive (red) terminals of batteries B1 and B3.

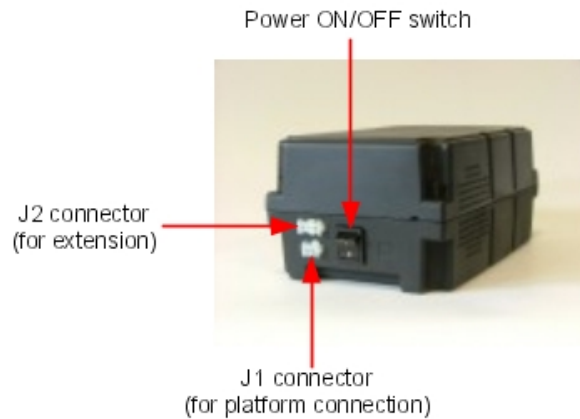


6. Close the unit and secure it with the four screws.
7. Stick a label on the unit stating the date of the installation and the number of batteries installed.

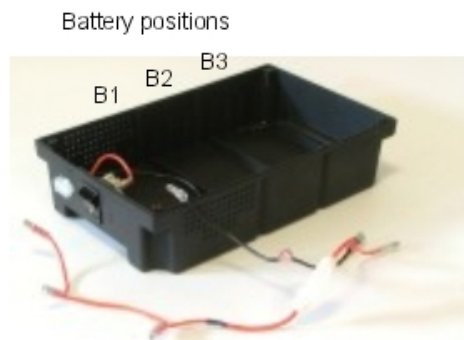
#### Procedure for 36 V stack version (for OmniPCX Office RCE Large platforms)

The 12 V stack version of the external battery unit can be used with OmniPCX Office RCE Large platforms. It uses three 12V - 7Ah batteries. Two external battery units can be connected in parallel to obtain the autonomy achieved with six batteries.

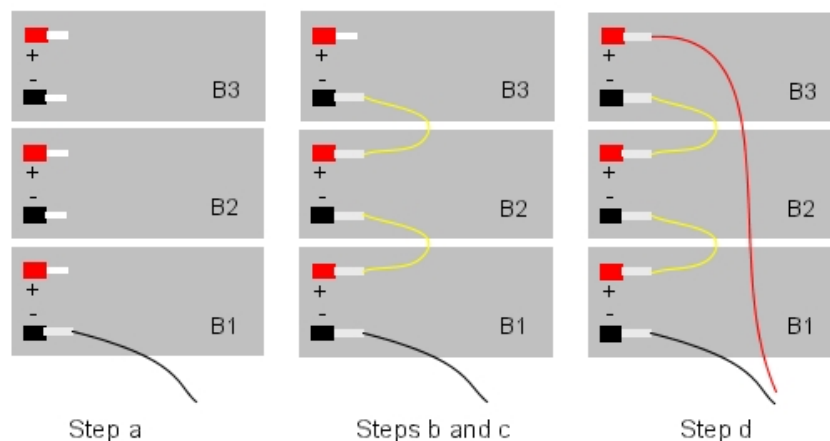
1. Ensure that the ON/OFF switch on the external battery unit is set to the OFF position (0 or black) and that there is no cable connected to the unit (see the figure below).



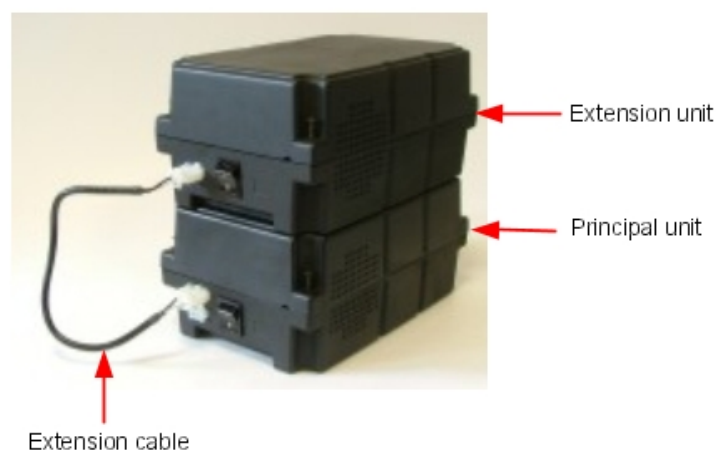
2. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).
3. Insert the three batteries in the open unit, into the positions B1, B2 and B3 (see the figure below).



4. Connect the terminals of the batteries strictly in the order detailed below (also see the figure below).
  - a. Connect the black wire to the negative (black) terminal of battery B1.
  - b. Connect a yellow wire between the positive (red) terminal of battery B1 and the negative (black) terminal of battery B2.
  - c. Connect a yellow wire between the positive (red) terminal of battery B2 and the negative (black) terminal of battery B3.
  - d. Connect the red wire to the positive (red) terminal of battery B3.



5. Close the unit and secure it with the four screws.
6. Stick a label on the unit stating the date of the installation and the number of batteries installed.
7. If you wish to use two external battery units in parallel, continue as follows (also see figure below):
  - a. Place the two units side by side, or one on top of the other.
  - b. Decide which unit is to be the principal unit and which is to be the extension unit.
  - c. Connect the two units using the extension cable between the J2 connectors on the units; the cable's Mate-N-Lok 3-terminal connector must be connected to the principal unit and its Mate-N-Lok 2-terminal connector must be connected to the extension unit.



### Installation of External Batteries for the OmniPCX Office RCE Medium and OmniPCX Office RCE Large Platforms

1. Stop the Alcatel-Lucent OmniPCX Office Communication Server system, and remove the power supply cord from the platform side.

**Disconnect the power supply cable on the platform side before handling the power supply. This operation disconnects the mains supply and the internal battery.**



**Disconnect the mains inlet on the platform side before manipulating the power supply. This process disconnects the mains and the internal battery.**

2. Remove the metal panel at the rear.
3. Remove the cover from the hole provided for the connecting cable on the rear panel of the Alcatel-Lucent OmniPCX Office Communication Server.



4. Remove the fan connector, then remove the power supply unit and the battery unit.



5. Replace the battery cable with the new cable provided with the connection kit (3EH 75031 AA).

6. If the BAT IN/EXT connector is present, remove the red jumper.



7. Remove the mounting clip and the batteries from the internal battery support.
8. Put the empty battery support and the power supply unit back in place, and reconnect the fan connector.
9. On the rear panel, plug the connector into the slot at the back. Secure the ferrite using the bracket and the self-adhesive base.
10. Put the rear panel back in place and stick the label provided beneath the connector. The labels have the following texts:
  - "EXTERNAL BATTERY 12VDC/8A" for OmniPCX Office RCE Medium platform,
  - "EXTERNAL BATTERY 36VDC/3.5A" for OmniPCX Office RCE Large platform.
11. Connect the cable (with J1 connector) between the Alcatel-Lucent OmniPCX Office Communication Server system and the external unit.
12. Set the ON/OFF switch on the external battery unit to the ON position (I or red).
13. Leave the batteries to charge for at least one hour.
14. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

### Installation of External Batteries for the OmniPCX Office RCE Small Platforms

1. Stop system, and remove the power supply cord from the platform side.



**Disconnect the power supply cable on the platform side before handling the power supply. This operation disconnects the mains supply and the internal battery.**




**Disconnect the mains inlet on the platform side before manipulating the power supply. This process disconnects the mains and the internal battery.**

2. Use a screwdriver to remove the upper panel.
3. Remove the battery and its cable.

4. If the BAT IN/EXT connector is present, remove the red jumper.



5. Remove the cover from the hole provided for the connecting cable on the rear panel of the Alcatel-Lucent OmniPCX Office Communication Server and stick the "EXTERNAL BATTERY 12VDC/8A" label. 
6. Connect the cable provided with the installation kit, and plug the connector into the rear panel and the slot. Secure the ferrite using the bracket and the self-adhesive base in the battery housing.
7. Put the upper cover back in place.
8. Connect the cable (with J1 connector) between the Alcatel-Lucent OmniPCX Office Communication Server system and the external unit.
9. Set the ON/OFF switch on the external battery unit to the ON position (I or red).
10. Leave the batteries to charge for at least one hour.
11. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

#### 4.3.1.3.5 Installation of External Batteries for the OmniPCX Office RCE Compact Platform

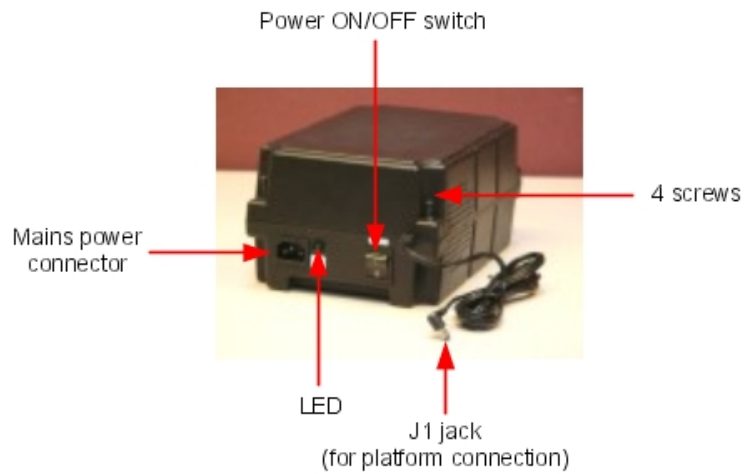
You must first prepare the external battery unit for use and then connect this unit to the OmniPCX Office RCE Compact platform. These two phases of installation are presented below in separate procedures.

Before starting the installation, note that:

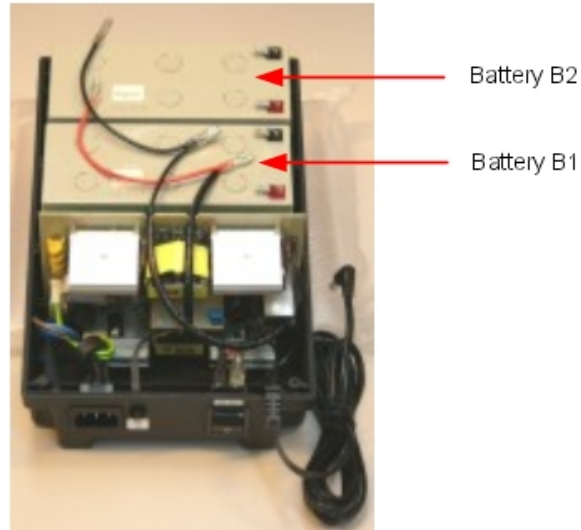
- External batteries must be of the same type, supplied by the same manufacturer and from the same batch run.
- Batteries must be charged prior to installation.

#### Preparing the External Battery Unit

1. On the external battery unit (see the figure below):
  - a. Ensure that the mains power cable is NOT connected.
  - b. Ensure that the ON/OFF switch is set to the OFF position (O or black).
  - c. Ensure that the J1 jack is NOT connected to the OmniPCX Office RCE Compact platform.
  - d. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).

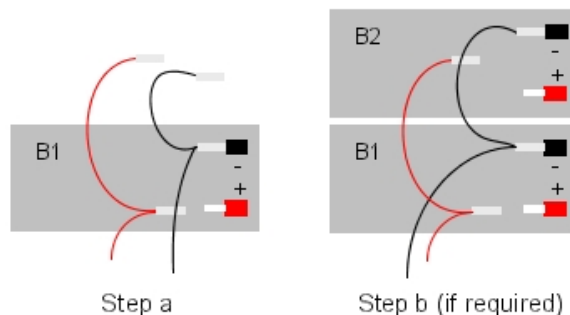


2. Insert the batteries in the open unit as follows (see the figure below):
  - a. Place the first battery in the middle position (battery B1).
  - b. If a second battery is to be used, place this battery in the remaining position (battery B2).

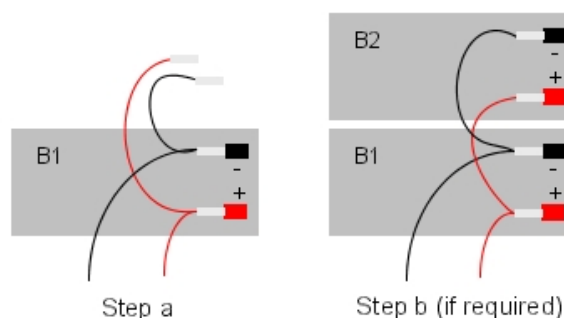


3. Connect the negative (black) terminals of the batteries as described below (and shown in the figure below).
  - a. Connect the middle connector of the black wire to the negative (black) terminal of battery B1.
  - b. If required, connect the end connector of the black wire to the negative (black) terminal

of battery B2.



4. Connect the positive (red) terminals of the batteries as described below (and shown in the figure below). Note that there may be a small amount of electrical arcing when electrical contact is made.
  - a. Connect the middle connector of the red wire to the positive (red) terminal of battery B1.
  - b. If required, connect the end connector of the red wire to the positive (red) terminal of battery B2.

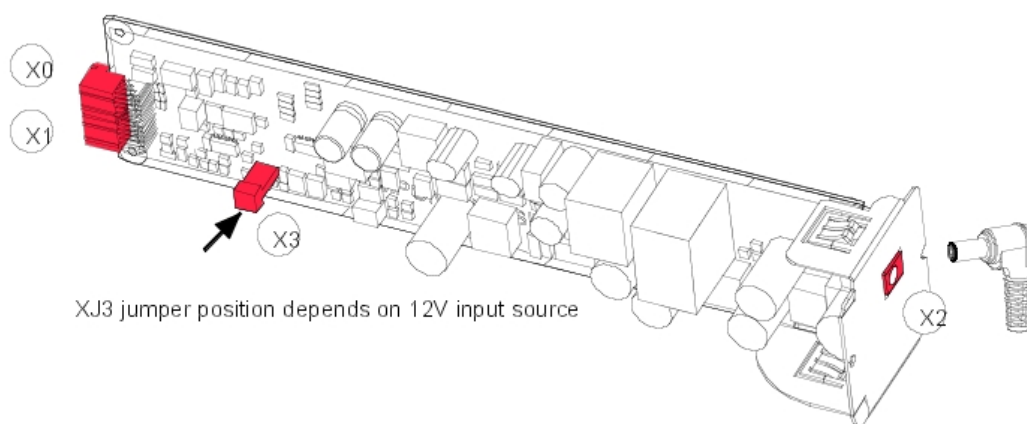


5. Close the unit and secure it with the four screws.
6. Stick a label on the unit stating the date of the installation and the number of batteries installed.

### Connecting to the OmniPCX Office RCE Compact Platform

1. Switch off the Alcatel-Lucent OmniPCX Office Communication Server system and then:
  - a. Unplug the power cable from the mains socket.
  - b. Disconnect the mains adapter from the OmniPCX Office RCE Compact platform.
  - c. Using a screwdriver, unscrew the power supply module (PSXS or PSXS-N) from the side of the OmniPCX Office RCE Compact platform and pull the module out of the cabinet.
2. Move the red extBAT jumper from the NO position to the YES position.





*Note:*

*If a hard disk is installed on an OmniPCX Office RCE Compact platform, it is MANDATORY to install the external battery unit, and the extBAT jumper of the PSXS-N MUST be set to YES. It is **mandatory** to use a power supply module PSXS-N with reference 3EH73072ACxx on an OmniPCX Office RCE Compact platform equipped with a PowerCPU board and a hard disk.*

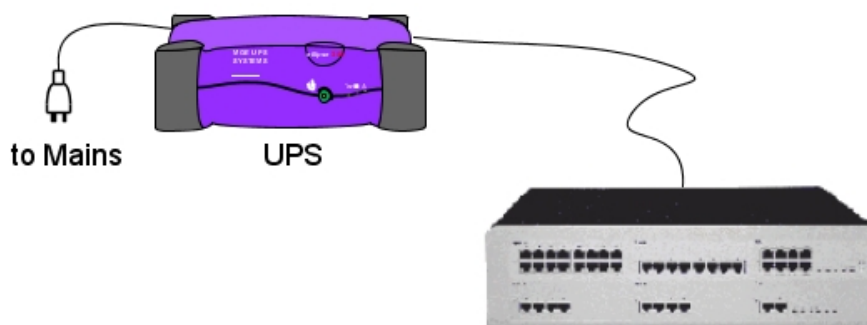
3. Push the power supply module back into the cabinet and secure it in place with a screwdriver.
4. Now on the external battery unit:
  - a. Ensure that the 12V stack battery unit has been properly prepared (as above).
  - b. Ensure that the ON/OFF switch is set to the OFF position (O or black).
  - c. Connect the J1 jack from the external battery unit to the OmniPCX Office RCE Compact platform.
  - d. Ensure that the mains power cable is connected to the external battery unit, plug this cable into the mains supply and check that the green LED on the unit is illuminated.
  - e. Set the ON/OFF switch to the ON position (I or red).
5. Restart the system.
6. Leave the batteries to charge for at least one hour.
7. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

### 4.3.1.4 Connecting a UPS

*Note:*

*This paragraph is not relevant to the OmniPCX Office RCE Compact platform.*

A UPS (Uninterruptible Power Supply) can be used to allow system data to be saved for at least an hour in the event of mains failure.



It is connected via the mains socket at the rear of the platform:

- UPS Power: use the mains cable provided with the Alcatel-Lucent OmniPCX Office Communication Server module.
- UPS Connection - module: use the cable supplied with the UPS

For an installation using 3 Alcatel-Lucent OmniPCX Office Communication Server modules, 2 UPSs are required: one feeds two of the modules, the other feeds the third module.

#### 4.3.1.5 Mains Connection - Ground Connection

##### 4.3.1.5.1 OmniPCX Office RCE Small, Medium, Large

The connection can be made using electrical installations of the following type:

- TT (local ground for each piece of equipment).
- TN (common ground for all equipment).
- IT with inter-phase voltage of 230 V; only possible in Norway.

Mains socket fuse: T2.5 AH / 250 V (delayed action, high cutout).



**So as not to compromise the fire protection feature, replace fuses with the same type of fuse having the same nominal characteristics.**



**For continued protection against risk of fire, replace only with same type and rating of fuse.**


The system is delivered with a 3 conductor cable (length: 3 m) to connect to the mains socket.


#### Permanent Ground

It is essential to connect the system permanently to ground due to leakage currents greater than 3.5 mA over the whole line access (safety constraint CEI60950 ed.03). To do this, use the ground wire of minimum section 4 mm<sup>2</sup> provided and connect it to the tag at the rear of the unit (left hand side).



**For performance and safety reasons, the system must always be connected to the ground. The ground must be connected prior to all the other connections.**

 For performance and safety reasons, the whole system must always be coupled to the ground. The ground must be connected before any other connections.

 The ground protection connection terminal must always be connected to the ground. Protective grounding terminal shall be permanently connected to the ground.

#### 4.3.1.5.2 OmniPCX Office RCE Compact

OmniPCX Office RCE Compact platform is powered by an external power supply unit (100/240V). It is connected via a jack plug at the front of the module (right hand side).


Remarks:


- A mains cable is not supplied with the module. It must be ordered separately.
- For a more secure configuration, an AC/DC power supply, including a backup battery, can be purchased as an optional extra.


#### Permanent Ground

It is essential to connect the system permanently to ground due to leakage currents greater than 3.5 mA over the whole line access (safety constraint CEI60950 ed.03).

To do this, use the ground wire of minimum section 2.5 mm<sup>2</sup> (not supplied) and connect it to the tag on the metal bottom of the unit (right hand side).

 For performance and safety reasons, the system must always be connected to the ground. The ground must be connected prior to all the other connections.

 For performance and safety reasons, the whole system must always be coupled to the ground. The ground must be connected before any other connections.

 The ground protection connection terminal must always be connected to the ground. Protective grounding terminal shall be permanently connected to the ground.

#### 4.3.1.6 Power Up

Having made all the connections, it is now time to power up the system.

- Insert the mains cable in the socket on the rear of the unit.
- Press the ON/OFF button. The system will reinitialize (duration: 3 to 4 minutes).

To stop the system:

- Press the ON/OFF button, the **RED** LED will flash.
- Wait until the LED stops flashing and is lit steadily (between 15 seconds and 3 minutes depending on the configuration): the system is switched off.

#### 4.3.1.6.1 Power Up of Dedicated Terminals

On powering up, dedicated sets execute a self-test:

- Display Test
- Test of the LEDs or icons on the terminal and add-on module, if any

- Audio test

If this sequence is correct, the display on the dedicated terminals shows the system date: Monday 01 January 00h00.

After powering up, you can activate the system from a dedicated terminal or by OMC (refer to the specific notice).

## 4.4 SIP Terminals

### 4.4.1 8082 My IC Phone

#### 4.4.1.1 Commissioning

##### 4.4.1.1.1 Overview

This module presents all the actions required for commissioning the 8082 My IC Phone sets.

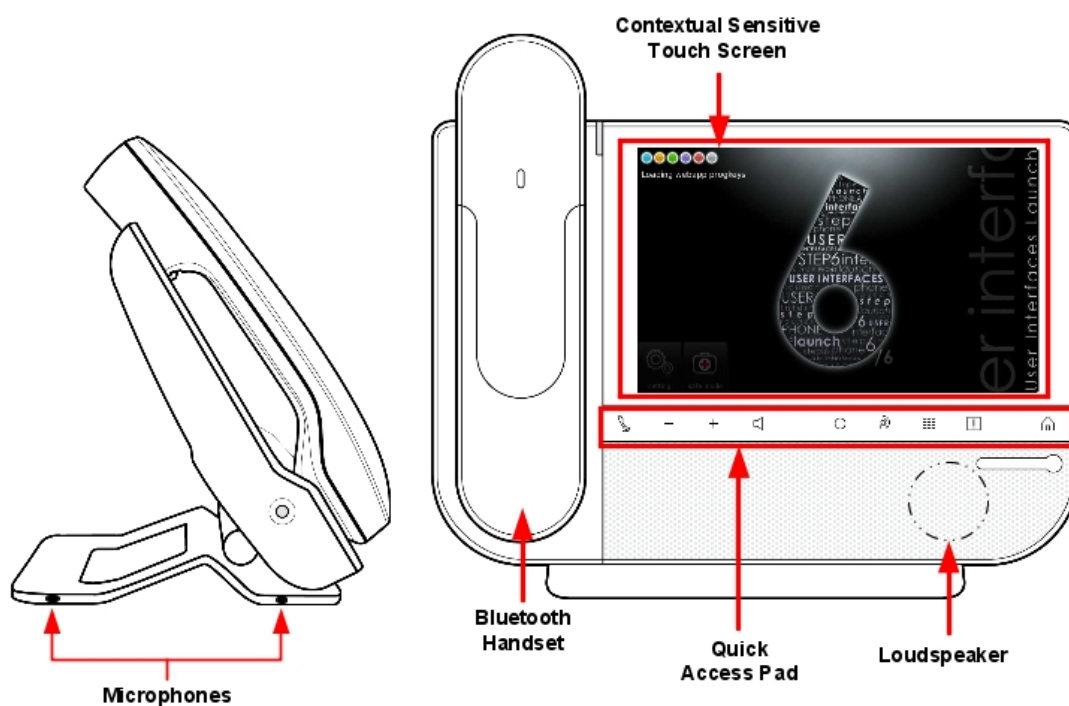


Figure 4.40: 8082 My IC Phone set layout

The following figure illustrates the connectors on the base of each set.

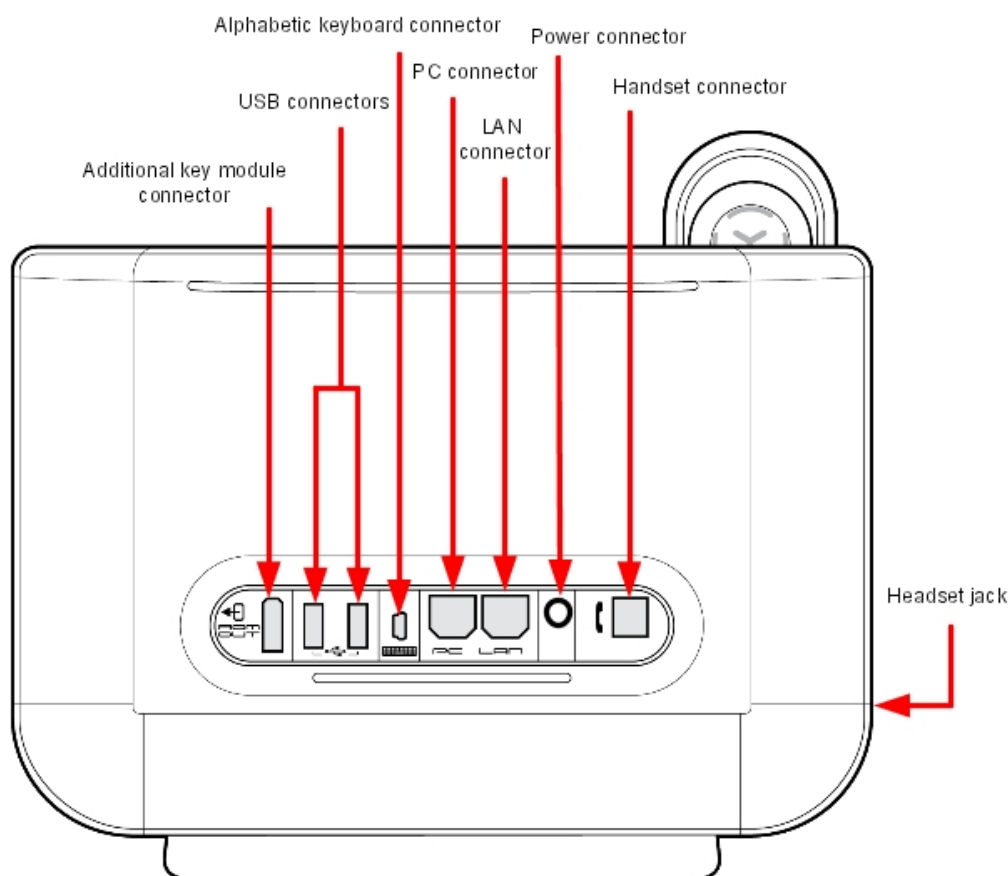


Figure 4.41: 8082 My IC Phone set connectors

#### 4.4.1.1.2 Commissioning the set

This section describes how to commission the set in the two available initialization options:

- Static initialization: commissioning is manual on the set and through OMC
- Dynamic initialization (DHCP): no commissioning is needed, 8082 My IC Phone sets are fully plug & phone

Depending on the selected mode, the set commissioning is different.

For static initialization, the operation order is as follows:

1. Configure the user in OMC, refer to: [Configuring the user in OMC](#)
2. Connect the set, refer to: [Connecting the set](#)
3. Configure network parameters on the set, refer to [Configuring network parameters for static initialization](#)

For dynamic initialization, the operation order is as follows:

1. Configure the DHCP Server, refer to [Configuring the DHCP server for dynamic initialization](#)

2. Configure the user name and password in OMC, refer to [Configuring the user name and password in OMC](#)

### Prerequisites

- The Alcatel-Lucent OmniPCX Office Communication Server version must be R810 or higher and the system must be operational
- For network configuration, any of the following must be implemented:
  - In dynamic mode, a DHCP server must be configured
  - In static mode, a free IP address must be available for the set
- A port with PoE must be available on a switch. If not available, a PoE injector must be used

### Configuring the user in OMC

*Note:*

*In dynamic (DHCP) mode, 8082 My IC Phone sets are fully plug & phone. This operation is not mandatory.*

To create an 8082 My IC Phone:

1. In OMC, go to **Users/Base stations List**.
2. Select a **No.**, **IP access** and click the **Add** button.
3. Select **IP terminal** and click **OK**.
4. Select the newly created user in the list, select **8082 My IC Phone** in the combo box type and enter a name.
5. Click the **Modify** button.
6. Double-click the newly created user to open the **User** dialog box.
7. Click the **IP/SIP** button and enter the MAC address of the set in the **IP Parameters** tab.
8. If needed, in the **SIP Parameters** tab, click the **SIP password reset** button to get a new password.

### Connecting the set

This section describes how to:

- Connect an 8082 My IC Phone set to the LAN (Local Area Network)
- Connect the external power adapter, if necessary

### Connecting an 8082 My IC Phone set to the LAN

To connect the set to the LAN:

- If using the 8082 Power Over Ethernet Injector Kit:
  - a. Plug an RJ45 cable between the **data in** port of the kit and the LAN
  - b. Plug an RJ45 cable between the **data and power out** port of the kit and the set LAN connector
  - c. Plug the kit to the mains
- If not using the 8082 Power Over Ethernet Injector Kit, plug an RJ45 cable between the set LAN connector and a port of the switch

## Connecting power supply

If not using a PoE switch or the 8082 Power Over Ethernet Injector Kit, connect the AC/DC external adapter:

1. Plug the appropriate cable from the adapter into the set's power supply connector.
2. Connect the plug from the adapter to the mains power supply.

## Initializing the sets

The following paragraphs describe how to:

- Select the initialization type
- Initialize the 8082 My IC Phone set

## Selecting the initialization type

The default initialization is dynamic.

To select the initialization type, refer to the following table.

table 4.16: Initialization type selection

If	Then the required initialization type is	Further information
You have a DHCP server	Dynamic or <b>Proprietary</b> dynamic	<ul style="list-style-type: none"> <li>- Refer to <a href="#">Configuring the DHCP server for dynamic initialization</a></li> <li>- In case of <b>Proprietary</b> dynamic selection, the IP address of the set must be provided by the <b>Proprietary</b> router.</li> </ul>
You do not have a DHCP server	Static	<ul style="list-style-type: none"> <li>- Refer to <a href="#">Configuring network parameters for static initialization</a></li> <li>- Obtain from your network administrator: <ul style="list-style-type: none"> <li>• An IP address for the 8082 My IC Phone set</li> <li>• The subnetwork mask</li> <li>• The router address</li> <li>• The DNS addresses (primary and secondary)</li> <li>• The VLAN ID (if VLAN is used)</li> <li>• The URL of the Alcatel-Lucent OmniPCX Office Communication Server for set configuration file download</li> </ul> </li> </ul> <p><i>Note:</i> You need to know the set directory number.</p>

## Configuring the DHCP server for dynamic initialization

Two types of dynamic initialization are available:

- **Dynamic** (default value): the set selects in priority DHCP offers, with a Vendor Specific option corresponding to an Alcatel-Lucent server.
- **Dynamic Alcatel**: the set accepts only DHCP offers with a Vendor Specific option

corresponding to an Alcatel-Lucent Enterprise server (`alcatel.int-ip.0`, `alcatel.a4400.0`, `alcatel.a4200.0`).

When initializing in dynamic mode, the set provides the following information in the DHCP Discover message

- Option 60: (vendor class identifier): `alcatel.ictouch.0`
- Option 55: list of requested options: subnet mask, router option, broadcast address, option 43 vendor specific info, server ID, renewal time, rebinding time and vendor class ID

Option 43 is vendor specific information, meaning that this option is defined for a specific client vendor ID. In the DHCP offer, the data within Option 43 corresponds to the client vendor ID specified in the request.

In the case of 8082 My IC Phone sets, suboption 67 of option 43 provides the path of configuration files on the Alcatel-Lucent OmniPCX Office Communication Server.

The DHCP offer provides the following parameters:

- IP address
- Router IP address
- Subnet mask
- Option 66: IP address or name of the Alcatel-Lucent OmniPCX Office Communication Server, for example `192.168.12.34`
- Suboption 67 of option 43: the value of this sub-option corresponds to the DM Url. It must contain a string value set to **/dmcfg/**
- Option 58: VLAN ID: this is sent as a suboption of option 43

Optionally, the DHCP offer can include the following parameters, which can also be configured locally on the terminal or on the Alcatel-Lucent OmniPCX Office Communication Server:

- Option 6: Domain Name Server (DNS primary and secondary)
- Option 15: Domain name
- Option 12: Host name (eg, ICTouch<MAC>)
- Option 42: SNTP server
- Option 120: SIP server (outbound proxy server address or name)

### Configuring network parameters for static initialization

MMI allows to access and configure the following parameters (you must have administration rights to modify static configuration):

- In the **Network** menu:
  - **DM** (Alcatel-Lucent OmniPCX Office Communication Server) URL: `https://OmniPCX Office IP address/dmcfg/`
  - **DNS** addresses
  - **Ethernet** parameters: the LAN and PC Ethernet interfaces are by default configured in auto-negotiation mode
  - **IP** parameters
  - **Log** parameters, allowing to define a syslog server for log reception
  - **Network** parameters, allowing to:
    - Enable and configure a **DHCP User Class**: this makes the set send the standard



DHCP option 77 (User Class, RFC2132) within the DISCOVER and REQUEST DHCP messages. Using this option allows to define groups of terminals, and to attach these groups to different and independent Com Servers.

- Define an SNTP Server address and refresh period
- **Proxy** host and port
- **SIP** parameters (read only)
- In **Security** menu:
  - **802.1x** parameters
  - **Certificates**: not used

### Configuring the user name and password in OMC

To modify the name and reset the password:

- In OMC, go to **Users/Base stations List**.
- Click the user in the list, modify her/his name in the corresponding field and click **Modify**.
- In the **SIP Parameters** tab, click the **SIP password reset** button to get a new password (In OMC, only reset of user password can be done, user password can be set only in 8082 My IC Phone set).

### Connecting optional equipment

#### Headsets

A headset can be used with 8082 My IC Phone sets.

By default the set is configured to detect headset connection. When the headset is plugged in, the audio is sent to the headset. The hands-free key allows you to switch from handset to headset.

A Bluetooth® headset may be used.

If your headset is wired, plug it to the associated set connector (see: [figure: 8082 My IC Phone set connectors](#) ), which can be any of the following:

- The jack plug
- The set USB port

#### External station speakers

Any connector used for a headset can be used for external speakers.

Customize your set to take the external station speaker into account:

1. Touch the **Settings** button

*Note:*

*According to system administration, this button may not appear. The availability of this option is determined by the set configuration files. Contact your telephony and/or system administrator.*

2. Select **Devices < Audio**
3. Select the connection of your choice (from **Accessory device** to **Bluetooth device**)
4. Touch the field to access available values
5. Select **Loudspeaker**

6. If your device is not Bluetooth, plug it to the corresponding connector

#### Traffic priority on the internal switch

The 8082 My IC Phone set includes an internal LAN switch.

This switch allows to connect a PC.

The internal switch has three ports:

- A LAN port
- An internal port
- A PC port, to connect a PC to the LAN.

The internal switch privileges VoIP traffic over PC port traffic.

This switch has two waiting queues:

- The HPQ (High Priority Queue) to proceed all packets from the terminal
- The LPQ (Low Priority Queue) to proceed packets from the PC port

The switch proceeds seven HPQ packets for an LPQ packet.

Exception: packets from the PC port use the HPQ when they are tagged with a DSCP or 802.1p priority and when the priority value is superior or equal to 4.

#### 4.4.1.1.3 Upgrading the software

The Alcatel-Lucent OmniTouch™ 8082 My IC Phone set software is upgraded during OmniPCX Office software upgrade. Ensure the **8082 My IC Phone** option is validated in the **OMC-Software Download** window: refer to [module System Startup from OMC - Downloading the Software](#)

### 4.4.2 4135 IP Conference Phone

#### 4.4.2.1 Commissioning

##### 4.4.2.1.1 Overview

This module presents all the actions required for commissioning 4135 IP Conference Phone sets.

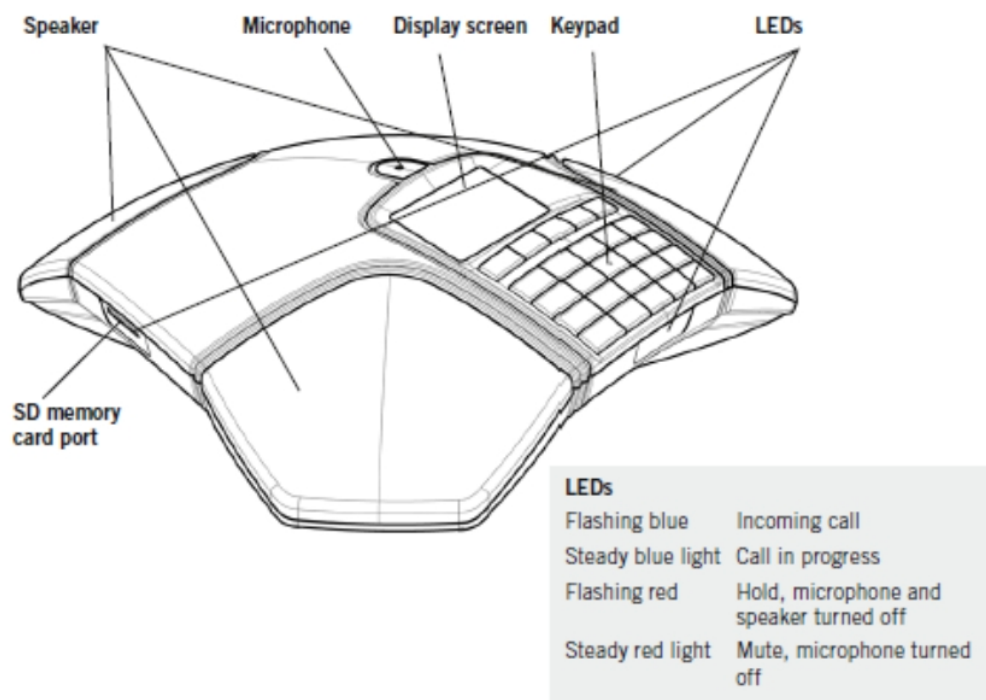


Figure 4.42: 4135 IP Conference Phone set layout

The following figure illustrates the connectors on the base of each set.

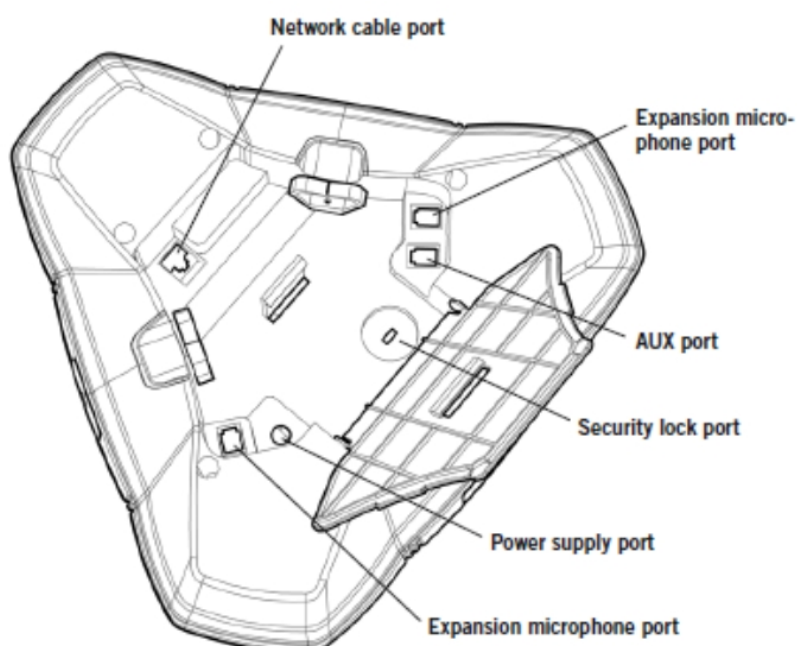


Figure 4.43: 4135 IP Conference Phone set connectors

The 4135 IP Conference Phone is a SIP device which has no handset; it is dedicated to be used as central for conferences.

Conferences are not managed by the system, but by the device itself. Up to four 4135 IP Conference Phones can be connected to the Alcatel-Lucent OmniPCX Office Communication Server.

#### 4.4.2.1.2 Commissioning the set

This section describes how to commission the set in the two available commissioning types:

- Static: commissioning is manual on the set and on OMC
- Dynamic (DHCP): the set automatically retrieves its IP address and other parameters from a DHCP server. Complementary operations are necessary on the set and on OMC

For static commissioning, operations are:

1. Configure the user in OMC, refer to [Configuring the user by OMC](#)
2. Connect the set to the LAN, refer to [Connecting the set to the LAN](#)
3. Configure the network parameters on the set, refer to [Configuring network parameters for static initialization](#)
4. Export the server certificate from the Alcatel-Lucent OmniPCX Office Communication Server: refer to [Exporting the server certificate from the Alcatel-Lucent OmniPCX Office Communication Server](#)
5. Upload the certificate on the 4135 IP Conference Phone

For dynamic commissioning, operations are:

1. Configure the DHCP Server, refer to [Configuring the DHCP server for dynamic initialization](#)
2. Connect the set to the LAN, refer to [Connecting the set to the LAN](#)
3. Configure the user name and password and consult the SIP password in OMC, refer to [Configuring the user name and password in OMC](#)
4. Export the server certificate from the Alcatel-Lucent OmniPCX Office Communication Server: refer to [Exporting the server certificate from the Alcatel-Lucent OmniPCX Office Communication Server](#)
5. Enter the SIP password through MMI, refer to [Entering the SIP password through local MMI](#)
6. Upload the certificate on the 4135 IP Conference Phone

#### Prerequisites

- The Alcatel-Lucent OmniPCX Office Communication Server must be R810 or higher and must be operational
- For network configuration, any of the following must be implemented:
  - In dynamic mode, a DHCP server must be configured
  - In static mode, a free IP address must be available for the set
- A port with PoE must be available on a switch

#### Configuring the user by OMC

This paragraph applies to OMC configuration of sets initializing in static mode. In dynamic (DHCP) mode, the following operation is not mandatory but the server certificate must be exported from the Alcatel-Lucent OmniPCX Office Communication Server to the PC and can then be uploaded to the 4135 IP Conference Phone.

To create a 4135 IP Conference Phone:

1. In OMC, go to **Users/Base stations List**.
2. Select a **No.**, **IP access**, enter a name and click the **Add** button.
3. Select **IP terminal** and click **OK**.
4. Select the newly created user in the list and select **4135 IP Conference Phone** in the combo box type.
5. Click the **Modify** button.
6. Click the newly created user to open the **User** dialog box.
7. Click the **IP/SIP** button and enter the MAC address of the set in the **IP Parameters** tab.
8. If needed, in the **SIP Parameters**, click the **SIP password reset** button to get a new password.

### Connecting the set to the LAN

*Note:*

*the set is supplied via Ethernet, so make sure using a 802.3af standard-compatible switch.*

To connect the set to the LAN:

1. Turn the set over so that you can see its base.
2. Plug the RJ45 cable into the set's LAN connector.
3. Connect the RJ45 cable to the LAN.

### Initializing the sets

This section describes how to:

- Select the initialization mode
- Initialize the 4135 IP Conference Phone set

### Selecting the initialization type

The default initialization is dynamic.

To select the initialization type, refer to the table below.

table 4.17: Initialization type selection

If	Then the required initialization mode is	Further information
You have a DHCP server	Dynamic or <b>Proprietary</b> dynamic	<ul style="list-style-type: none"><li>- Refer to <a href="#">Configuring the DHCP server for dynamic initialization</a></li><li>- In the case of <b>Proprietary</b> dynamic mode, the IP address of the set must be provided by the <b>Proprietary</b> router.</li></ul>

You do not have a DHCP server	Static	<ul style="list-style-type: none"> <li>- Refer to <a href="#">Configuring network parameters for static initialization</a></li> <li>- Obtain from your network administrator: <ul style="list-style-type: none"> <li>• An IP address for the 4135 IP Conference Phone set</li> <li>• The subnetwork mask</li> <li>• The router address</li> <li>• The DNS addresses (primary and secondary)</li> <li>• The VLAN ID (if VLAN is used)</li> <li>• The URL of the Alcatel-Lucent OmniPCX Office Communication Server for configuration files download</li> </ul> </li> </ul> <p><i>Note:</i> You need to know the set directory number.</p>
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### Configuring the DHCP server for dynamic initialization

In **Dynamic** initialization (default value), the set selects the first DHCP offer, with a Vendor Specific option corresponding to an Alcatel-Lucent server.

When initializing in dynamic mode, the set provides the following information in the DHCP Discover message:

- Option 60: (vendor class identifier): `alcatel.sip.0`
- Option 55: list of requested options: subnet mask, router option, broadcast address, option 43 vendor specific info, server ID, renewal time, rebinding time and vendor class ID

Option 43 is vendor specific information, meaning that this option is defined for a specific client vendor ID. In the DHCP offer, the data within Option 43 corresponds to the client vendor ID specified in the request.

In the case of 4135 IP Conference Phone sets, suboption 67 of option 43 provides the path of configuration files on the Alcatel-Lucent OmniPCX Office Communication Server.

The DHCP offer provides the following parameters:

- IP address
- Router IP address
- Subnet mask
- Option 66: IP address or name of the Alcatel-Lucent OmniPCX Office Communication Server, for example `192.168.12.34`
- Suboption 67 of option 43: the value of this sub-option must contain a string value set to **`https://alize/dmcfgr/`**
- Option 58: VLAN ID: this is sent as a suboption of option 43

Optionally, the DHCP offer can include the following parameters, which can also be configured locally on the terminal or on the Alcatel-Lucent OmniPCX Office Communication Server:

- Option 6: Domain Name Server (DNS primary and secondary)
- Option 15: Domain name
- Option 12: Host name (eg, ICTouch<MAC>)

- Option 42: SNTP server
- Option 120: SIP server (outbound proxy server address or name)

#### Exporting the server certificate from the Alcatel-Lucent OmniPCX Office Communication Server

1. Go to **OMC->Tools->Import/Export->Export Server Certificate**.  
The **Export Server Certificate** window is displayed
2. Click **Browse** button.  
The **Exportfile** window is displayed:
  - The **File name** field indicates `server.crt`. The file name can be modified as needed
  - The **Files of type** field indicates `Certificate Files`
3. Specify the destination path for the export and click **OK**: The selected path and the certificate file name are displayed in the **Export Server Certificate** window
4. Click the **Export** button: The certificate file is exported from the Alcatel-Lucent OmniPCX Office Communication Server to the specified file path in PC
5. Click the **Return** button

#### Configuring network parameters for static initialization

The following parameters must be entered through the MMI:

- **IP address**
- **Subnet mask**
- **Gateway address**
- **DNS addresses**
- **VLAN use**
- **VLAN ID** (if VLAN use is set)
- **URL**: provides the URL on the Alcatel-Lucent OmniPCX Office Communication Server to download configuration file. The path on the Alcatel-Lucent OmniPCX Office Communication Server is **/dmcfg/**
- **SIP password**

#### Configuring the user name and password in OMC

To modify the name and password:

- In OMC, go to **Users/Base stations List**.
- Click the user in the list.
- Modify the user name in the corresponding field and click **Modify**.
- Double-click the user in the list to open the **User** dialog box.
- Click on **IP/SIP**, go to **SIP parameters** Tab to consult the SIP password.

#### Entering the SIP password through local MMI

For static and dynamic initialization, enter the SIP password through MMI.

#### 4.4.2.1.3 Upgrading the software

The 4135 IP Conference Phone set software is automatically upgraded during OmniPCX Office software upgrade (there is no specific option to select in the **OMC-Software Download** window: refer to [module System Startup from OMC - Downloading the Software](#) )

The 4135 IP Conference Phone set software can also be upgraded manually through the MMI.

### 4.4.3 Generic SIP Phones

#### 4.4.3.1 Commissioning

##### 4.4.3.1.1 Overview

This module presents all the actions required for commissioning generic SIP sets.

The List of supported SIP Phones is available on the Alcatel-Lucent Applications Partner Program (AAPP) web site.

##### 4.4.3.1.2 Commissioning Generic SIP Sets

This section describes how to commission a generic SIP Set.

The following operations must be performed:

1. Configure the user in OMC, refer to [Configuring the User in OMC](#)
2. Connect the set, refer to [Connecting the Set](#) and switch it on
3. Configure the generic SIP set, refer to [Configuring the generic SIP set](#)

#### Prerequisites

- The Alcatel-Lucent OmniPCX Office Communication Server must be R810 or higher and must be operational
- A free IP address must be available for the set
- A port with PoE must be available on a switch

#### Configuring the User in OMC

To create a generic SIP set:

1. In OMC, go to **Users/Base stations List**.
2. Select a **No.**, **IP access** and click on the **Add** button.
3. Select **IP terminal** and enter a **Name**.
4. Select the newly created user in the list and select **Basic SIP Phone** or **Open SIP Phone** in the combo box.  
See the different features relating to basic or open SIP modes: module List of Services Provided - Services provided - Services Offered on SIP Sets
5. Click the **Modify** button.
6. Click the **Details** button. The **User** window is opened.
7. Click the **IP/SIP** button. The **IP/SIP parameters** window is opened.
8. In the **SIP parameters** tab, click the **SIP password reset** button. A new password is generated in the **SIP password** field.



9. A virtual MAC Address is automatically generated but it can be replaced by the real MAC Address of the SIP device.

*Note:*

*The MAC Address must be unique and is used to identify the subscriber in the OmniPCX Office call handling (SIP password is used for authentication).*

10. Note this new password safely. It will be requested during the generic SIP set configuration ( [Configuring the generic SIP set](#) ).

### Connecting the Set

This section describes how to:

- Connect a generic SIP set to the LAN (Local Area Network)
- Connect the power supply

### Prerequisites

None

### Connecting a SIP set to the LAN

*Note:*

*If the set is supplied via Ethernet, ensure you are using a 802.3af standard-compatible switch.*

To connect the set to the LAN:

- Plug the RJ45 cable into the set's LAN connector.
- Connect the RJ45 cable to the LAN.

### Connecting Power Supply (Optional)

To supply power via an AC/DC external adapter:

- Plug the appropriate cable from the adapter into the set's power supply connector.
- Connect the plug from the adapter to the mains power supply.

### Configuring the generic SIP set

The following parameters must be entered through the MMI or web interface when available:

- **IP address** (if no DHCP server is configured)
- **Subnet mask** (if no DHCP server is configured)
- **Gateway address** (if no DHCP server is configured)
- **DNS addresses** (if no DHCP server is configured)
- **VLAN use** (if no DHCP server is configured)
- **VLAN ID** if VLAN use is set (if no DHCP server is configured)
- **SIP username**
- **SIP password**: this is different from the user password. It is randomly generated for each SIP phone by the system and must be provided to the user in a secured way. It is used both for SIP registration and for SIP authentication, since every SIP message must be authenticated.

*Note:*

*The random password must be entered manually in MMI. It must be made of with letters and numbers only and can be viewed/reset in OMC.*

*This password has been previously generated in: [Configuring the User in OMC](#).*

- **Registrar and proxy IP addresses:** the Alcatel-Lucent OmniPCX Office Communication Server IP address and the SIP port must be set to value 5059
- **Authentication Realm:** Alcatel-Lucent OmniPCX Office Communication Server IP address by default
- **Registration interval:** value greater than 120 seconds
- **Transport protocol:** the UDP protocol is preferred, TCP is used if the SIP packet length is greater than the MTU value or if the remote SIP endpoint requests the TCP protocol
- **Domain name:** Alcatel-Lucent OmniPCX Office Communication Server IP address by default

## 4.5 8 Series Sets

### 4.5.1 IP Touch 4008/4018 Phone

#### 4.5.1.1 Commissioning

##### 4.5.1.1.1 Overview

This module presents all the actions required for commissioning:

- The Alcatel-Lucent IP Touch 4018 Phone set
- The Alcatel-Lucent IP Touch 4018 phone Extended Edition set

The commissioning of Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition sets is identical.

The following figure illustrates the connectors on the base of the Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition sets.

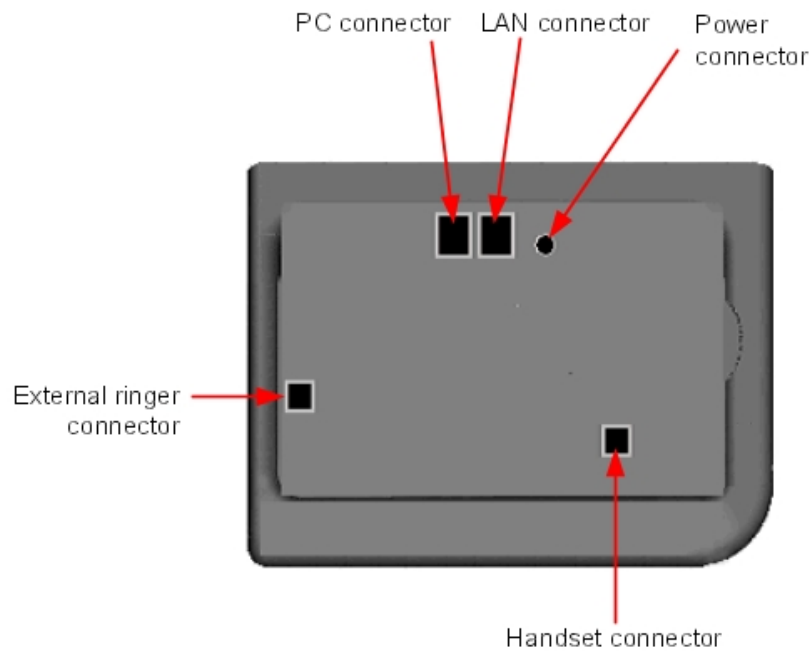


Figure 4.44: Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition connectors

#### 4.5.1.1.2 Commissioning the set

This section describes how to:

- Connect the set
- Initialize the set
- Program keys

##### Prerequisites

None.

##### Connecting the sets

This section describes how to:

- Connect an IP Touch set to the LAN (Local Area Network)
- Connect the power supply

##### Prerequisites

None.

##### Connecting an IP Touch set to the LAN

To connect the set to the LAN:

1. Turn the set over so that you can see its base.
2. Plug the RJ45 cable into the set's LAN connector.
3. Connect the RJ45 cable to the LAN itself.

### Connecting power supply

The set can be supplied from two possible power sources:

- An AC/DC external adapter which is a 42V power supply  
A female jack is used to connect the power adapter. The AC/DC external adapter is the same for IP Touch and e-Reflex sets.
- Power over Ethernet (PoE)  
The supply via Ethernet can be implemented using a 802.3af standard-compatible switch.

To supply power via an AC/DC external adapter:

1. Plug the appropriate cable from the adapter into the set's power supply connector.
2. Connect the plug from the adapter to the mains power supply.  
*Initialization starts.*

### Initializing the sets

This section describes how to:

- Choose the initialization mode
- Initialize the IP Touch set

### Prerequisites

The IP Touch set must be connected to the:

- LAN
- Power supply

### Choosing the initialization mode

The default mode is dynamic mode.

To choose the initialization mode, refer to the table below.

table 4.18: Initialization modes

If	Then the required initialization mode is	And
You have a DHCP server	Dynamic mode or <b>Proprietary</b> dynamic mode	Refer to <a href="#">table: Initialization procedure</a> In the case of <b>Proprietary</b> dynamic mode, the IP address of the set must be provided by the <b>Proprietary</b> router.

You do not have a DHCP server	Static mode	<ul style="list-style-type: none"> <li>- Refer to <a href="#">table: Initialization procedure</a></li> <li>- Obtain from your network administrator: <ul style="list-style-type: none"> <li>• An IP address for the IP Touch set</li> <li>• The subnetwork mask</li> <li>• The router address</li> <li>• The TFTP server address, which is the IP address of the PowerCPU board embedding the VoIP board</li> </ul> </li> </ul>
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### Initializing the IP Touch set

To initialize the IP Touch set, refer to the table below.

*Note 1:*

*In each of the two cases below, you can view the IP Touch set's software version after Step 2 by selecting **Version** in the Main menu.*

table 4.19: Initialization procedure

For an initialization that is	Procedure
Dynamic mode or <b>Proprietary</b> dynamic mode	<ol style="list-style-type: none"> <li>1. Connect the power supply.</li> <li>2. After initialization phase 2 is completed and before phase 5 starts, press <b>i</b>, then the <b>#</b> key. <i>The Main menu appears.</i></li> <li>3. If the set was previously in static mode, choose <b>IP Parameters</b> from the <b>Main</b> menu. <i>The IP Parameters menu appears.</i></li> <li>4. Choose <b>Dynamic</b> and press the <b>OK</b> key.</li> <li>5. Save by pressing the <b>#</b> key.</li> <li>6. Exit the <b>Main</b> menu by pressing the <b>*</b> key.</li> </ol>

Static	<ol style="list-style-type: none"> <li>1. Connect the power supply.</li> <li>2. Before initialization phase 5 starts, press <b>i</b>, then the <b>#</b> key. <i>The Main menu appears.</i></li> <li>3. From the <b>Main</b> menu, choose <b>IP Parameters</b>. <i>The IP Parameters menu appears.</i></li> <li>4. Choose <b>Static</b> and press the <b>OK</b> key.</li> <li>5. Enter the following: <ol style="list-style-type: none"> <li>a. IP address</li> <li>b. Subnetwork mask</li> <li>c. Router address</li> <li>d. TFTP server address</li> <li>e. TFTP port (69)</li> <li>f. CPU address</li> </ol> </li> <li>6. Enter the required VLAN details, as follows: <ol style="list-style-type: none"> <li>a. If required, select <b>Use VLAN</b> and then enter the VLAN ID number.</li> <li>b. Ensure that <b>Strict VLAN</b> is set as required. It is selected by default; de-selecting it allows you to use a DHCP server in another VLAN.</li> </ol> </li> <li>7. Save the above parameter values by pressing the <b>#</b> key.</li> <li>8. Exit the <b>Main</b> menu by pressing the <b>*</b> key. <i>The set restarts from phase 1 with the new parameters.</i></li> </ol> <p><i>Note 2:</i> If an error message appears during initialization, disconnect the power adapter, then plug it in again, so that the system restarts initialization.</p>
--------	---

### Restarting initialization

If you want to change a parameter value, restart initialization, as detailed below.

To restart initialization:

1. Disconnect the IP Touch set from the power supply.
2. Reconnect the power supply.
3. Execute the initialization procedure as detailed in [table: Initialization procedure](#)

### Programming keys

This section describes how to program the programmable keys.

In fact, only the direct call key can be programmed (with a telephone number), which by default is the sixth programmable key. However, the Personal/Dial by name key can be programmed in a similar way.

To program a key:

1. Press the **i** key followed by the required programmable key.
2. Press one key of the 2-way navigator (up or down).
3. Enter the telephone number to be associated with this programmable key.
4. Press **OK**. The set then goes back to its default display.

### Relocating and retaining IP Touch sets

This section describes how to relocate and retain the same set.

In the procedure below, it is assumed that:

- there is one DHCP server
- no VLAN has to be configured.

### Prerequisites

None.

### Relocating and retaining the same set

To relocate and retain the same set:

1. Unplug the set.
2. Plug the set into a connector at its new location.

#### 4.5.1.1.3 The Alcatel-Lucent IP Touch 4008 Phone set

The Alcatel-Lucent IP Touch 4008 Phone is a cost reduction of the Alcatel-Lucent IP Touch 4018 Phone with a new transceiver and a new LAN switch.

The Alcatel-Lucent IP Touch 4008 Phone configuration is the same as the Alcatel-Lucent IP Touch 4018 Phone configuration: both sets share the same profile.

The Alcatel-Lucent IP Touch 4008 phone Extended Edition configuration is the same as the Alcatel-Lucent IP Touch 4018 Phone configuration.

## 4.5.2 IP Touch 4028/4038/4068 Phone

### 4.5.2.1 Commissioning

#### 4.5.2.1.1 Overview

This module presents all the actions required for commissioning: .

- The Alcatel-Lucent 8 series:
  - Alcatel-Lucent IP Touch 4028 Phone
  - Alcatel-Lucent IP Touch 4038 Phone
  - Alcatel-Lucent IP Touch 4068 Phone
- The Alcatel-Lucent IP Touch 8 series phone Extended Edition:
  - Alcatel-Lucent IP Touch 4028 phone Extended Edition
  - Alcatel-Lucent IP Touch 4038 phone Extended Edition
  - Alcatel-Lucent IP Touch 4068 phone Extended Edition

The commissioning of Alcatel-Lucent 8 series and Alcatel-Lucent IP Touch 8 series phone Extended Edition is the same.

In the following sections, when Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone are mentioned, they refer to the two ranges of sets (Alcatel-Lucent 8 series and Alcatel-Lucent IP Touch 8 series phone Extended Edition), unless specifically indicated.

The following figure illustrates the connectors on the base of each set.

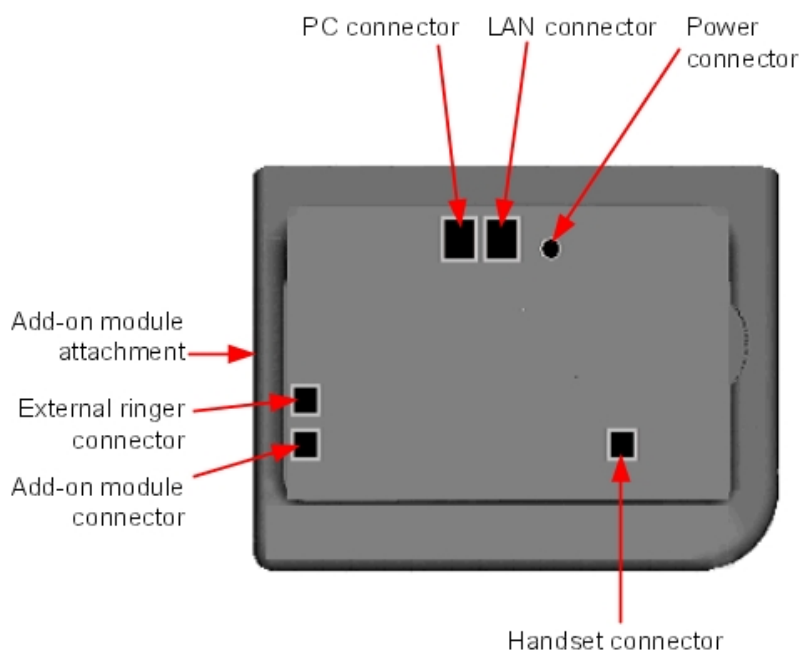


Figure 4.45: Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone connectors

#### 4.5.2.1.2 Commissioning the sets

This section describes how to:

- Connect the sets
- Initialize the sets
- Connect optional equipment
- Program keys

##### Prerequisites

None.

##### Connecting the sets

This section describes how to:

- Connect an IP Touch set to the LAN (Local Area Network)
- Connect the power supply

##### Prerequisites

None.

##### Connecting an IP Touch set to the LAN



To connect the set to the LAN:

1. Turn the set over so that you can see its base.
2. Plug the RJ45 cable into the set's LAN connector.
3. Connect the RJ45 cable to the LAN itself.

### Connecting power supply

The set can be supplied from two possible power sources:

- An AC/DC external adapter which is a 42V power supply  
A female jack is used to connect the power adapter. The AC/DC external adapter is the same for IP Touch and e-Reflex sets.
- Power over Ethernet (PoE)  
The supply via Ethernet can be implemented using a 802.3af standard-compatible switch.

To supply power via an AC/DC external adapter:

1. Plug the appropriate cable from the adapter into the set's power supply connector.
2. Connect the plug from the adapter to the mains power supply.  
*Initialization starts.*

### Initializing the sets

This section describes how to:

- Choose the initialization mode
- Initialize the IP Touch set

### Prerequisites

The IP Touch set must be connected to the:

- LAN
- Power supply

### Choosing the initialization mode

The default mode is dynamic mode.

To choose the initialization mode, refer to the table below.

table 4.20: Initialization modes

If	Then the required initialization mode is	And
You have a DHCP server	Dynamic mode or <b>Proprietary</b> dynamic mode	Refer to <a href="#">table: Initialization procedure</a> In the case of <b>Proprietary</b> dynamic mode, the IP address of the set must be provided by the <b>Proprietary</b> router.

You do not have a DHCP server	Static mode	<ul style="list-style-type: none"> <li>- Refer to <a href="#">table: Initialization procedure</a></li> <li>- Obtain from your network administrator: <ul style="list-style-type: none"> <li>• An IP address for the IP Touch set</li> <li>• The subnetwork mask</li> <li>• The router address</li> <li>• The TFTP server address, which is the IP address of the PowerCPU board embedding the VoIP board</li> </ul> </li> </ul> <p><i>Note:</i> You need to know your set's directory number.</p>
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### Initializing the IP Touch set

To initialize the IP Touch set, refer to the table below.

table 4.21: Initialization procedure

For an initialization that is	Procedure
Dynamic mode or <b>Proprietary</b> dynamic mode	<ol style="list-style-type: none"> <li>1. Connect the power supply.</li> <li>2. Before initialization phase 5 starts, press <b>i</b>, then the <b>#</b> key. <i>The Main menu appears.</i></li> <li>3. If the set was previously in static mode, choose <b>IP Parameters</b> from the <b>Main</b> menu. <i>The IP Parameters menu appears.</i></li> <li>4. Choose <b>Dynamic</b>.</li> <li>5. Save by pressing the soft key in the upper left part of the display.</li> <li>6. Exit the <b>Main</b> menu by pressing the soft key in the upper right part of the display.</li> </ol>

Static	<ol style="list-style-type: none"> <li>1. Connect the power supply.</li> <li>2. Before initialization phase 5 starts, press <b>i</b>, then the <b>#</b> key. <i>The Main menu appears.</i></li> <li>3. From the <b>Main</b> menu, choose <b>IP Parameters</b>. <i>The IP Parameters menu appears.</i></li> <li>4. Choose <b>Static</b>.</li> <li>5. Enter the following: <ol style="list-style-type: none"> <li>a. IP address</li> <li>b. Subnetwork mask</li> <li>c. Router address</li> <li>d. TFTP server address</li> <li>e. TFTP port (69)</li> <li>f. CPU address</li> </ol> </li> <li>6. Enter the required VLAN details, as follows: <ol style="list-style-type: none"> <li>a. If required, select <b>Use VLAN</b> and then enter the VLAN ID number.</li> <li>b. Ensure that <b>Strict VLAN</b> is set as required. It is selected by default; de-selecting it allows you to use a DHCP server in another VLAN.</li> </ol> </li> <li>7. Save by pressing the soft key in the upper left part of the display.</li> <li>8. Exit the <b>Main</b> menu by pressing the soft key in the upper right part of the display. <i>The set restarts from phase 1 with the new parameters.</i></li> </ol> <p><i>Note:</i> If an error message appears during initialization, disconnect the power adapter, then plug it in again, so that the system restarts initialization.</p>
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### Restarting initialization

If you want to change a parameter value, restart initialization, as detailed below.

To restart initialization:

1. Disconnect the IP Touch set from the power supply.
2. Reconnect the power supply.
3. Execute the initialization procedure as detailed in [table: Initialization procedure](#)

### Connecting optional equipment

This section describes how to:

- Connect an Add-On module (AOM) to the sets
- Connect a headset
- Connect an external station speaker

#### Connecting an Add-On module to the sets

Add-On Modules (AOMs) can be connected to the Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone sets. They are added to the right side of the set.

Three types of Add-On Module exist and provide keys associated with icons:

- AOM10 provides 10 keys
- AOM40 provides 40 keys

- AOM Alcatel-Lucent 8 series and Alcatel-Lucent 9 series Smart Display Module provides 14 keys with programmable LCD labels

### Prerequisites

None.

### Rules and restrictions

The following rules apply to the use of Add-On Modules with the Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone sets:

- A maximum of three Add-On Modules of the types AOM10 and AOM40 can be connected to each set, providing up to 120 additional keys.
- A maximum of three Smart Display Modules can be connected to each set, providing up to 42 additional keys.
- Add-On Modules of types AOM10 and AOM40 can be used on the same set, but a Smart Display Module cannot be used in conjunction with an AOM10 or AOM40.
- If an AOM10 is used with other Add-On Modules, it must be connected as the last module on the far right of the set.

### Connecting Add-On Modules

To connect an Add-On Module:

1. Remove the tab located on the right side of the IP Touch set.
2. Plug the Add-On Module's RJ45 connector into the set's RJ45 connector.
3. Insert the Add-On Module attachments into the appropriate holes located on the right side of the IP Touch set.
4. Screw the Add-On Module to the IP Touch set.

*Note:*

*If the IP Touch set is on when you plug in an Add-On Module, you must restart the set after connection.*

### Connecting headsets

The headset jack is located on the left side of the set.

The 3.5 mm female jack can receive a headset jack.

The hands-free key allows you to switch from handset to headset.

### Prerequisites

None.

### Connecting a headset

To connect a headset, simply plug the headset jack into the associated connector on the side of the set.

### Connecting external station speakers

The external station speaker jack is located on the left side of the IP Touch set.

The 3.5 mm female jack can receive an external station speaker jack.

In order to take the external station speaker into account, the set customization for the jack has to be set to "Loudspeaker".

### Prerequisites

None.

### Connecting an external station speaker

To connect an external station speaker, plug the external station speaker jack into the associated connector on the side of the set.

### Programming keys

This section describes how to program a programmable key from the:

- F1/F2 keys
- Add-On Module keys (if any)
- virtual add-on keys

Two methods are presented.

### Programming a key

To program a key:

1. From the **MENU** tab, select **Settings**.  
*The Settings menu appears.*
2. From the **Settings** menu, select **Keys**.  
*The virtual add-on keys appear.*
3. Select the key to be programmed, as follows:
  - To program a virtual add-on key, scroll using the up/down navigator keys until you reach the required virtual key and then press the corresponding soft key.
  - To program the F1 or F2 key, or a key on a connected Add-On Module, simply press this key.
4. Select **Name** and enter the name to be associated with the selected key, then press **OK**.  
*The desired name is associated with the key.*
5. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.  
*The desired number is associated with the key.*
6. Press **Exit** to go back to home page.

### Programming a key (fast customization)

You can also program a key using the following method:

1. Select the key to be programmed, as follows:
  - To program a virtual add-on key, from the **PERSO** tab press **i** followed by the required key.
  - To program the F1 or F2 key, or a key on a connected Add-On Module, from any tab press **i** followed by the required key.

2. Select **Name** and enter the name to be associated with the selected key, then press **OK**.  
*The desired name is associated with the key.*
3. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.  
*The desired number is associated with the key.*
4. Press **Exit** to go back to the home page.

### Relocating and retaining IP Touch sets

This section describes how to relocate and retain the same set.

In the procedure below, it is assumed that:

- there is one DHCP server
- no VLAN has to be configured.

### Prerequisites

None.

### Relocating and retaining the same set

To relocate and retain the same set:

1. Unplug the set.
2. Plug the set into a connector at its new location.

## 4.6 9 Series Sets

### 4.6.1 4019 Digital Phone

#### 4.6.1.1 Commissioning

##### 4.6.1.1.1 Overview

This module presents all the actions required for commissioning the Alcatel-Lucent 4019 Digital Phone set.

The following figure illustrates the connectors on the base of the set.

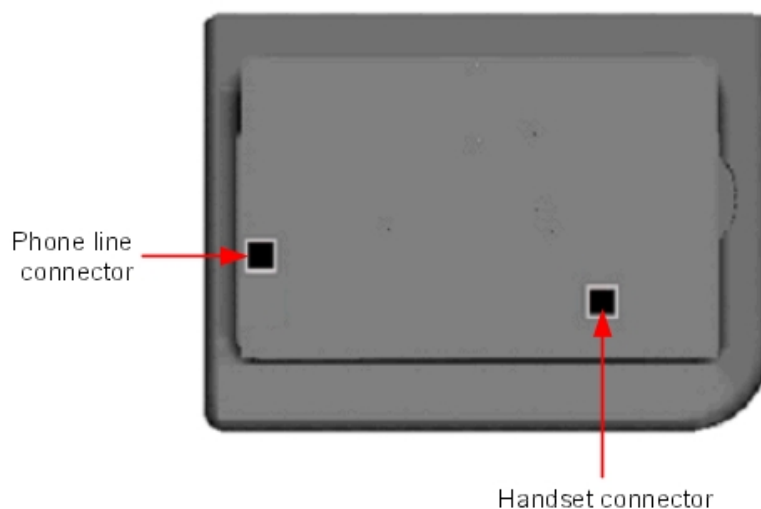


Figure 4.46: Alcatel-Lucent 4019 Digital Phone connectors

#### 4.6.1.1.2 Commissioning the set

This section describes how to:

- Connect the set
- Program keys

##### Prerequisites

None.

##### Connecting the set

This section describes how to connect the set to the telephone system.

##### Prerequisites

None.

##### Connecting the set to the telephone system

To connect the set to the telephone system:

1. Turn the set over so that you can see its base.
2. Plug the RJ11 cable into the set's UA port/phone line connector.
3. Connect the RJ11 cable to a UA port in the telephone system.

##### Programming keys

This section describes how to program the programmable keys.

In fact, only the direct call key can be programmed (with a telephone number), which by default is the sixth programmable key. However, the Personal/Dial by name key can be programmed in a similar way.

To program a key:

1. Press the **i** key followed by the required programmable key.
2. Press one key of the 2-way navigator (up or down).
3. Enter the telephone number to be associated with this programmable key.
4. Press **OK**. The set then goes back to its default display.

## 4.6.2 4029/4039 Digital Phone

### 4.6.2.1 Commissioning

#### 4.6.2.1.1 Overview

This module presents all the actions required for commissioning the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets.

The following figure illustrates the connectors on the base of each set.

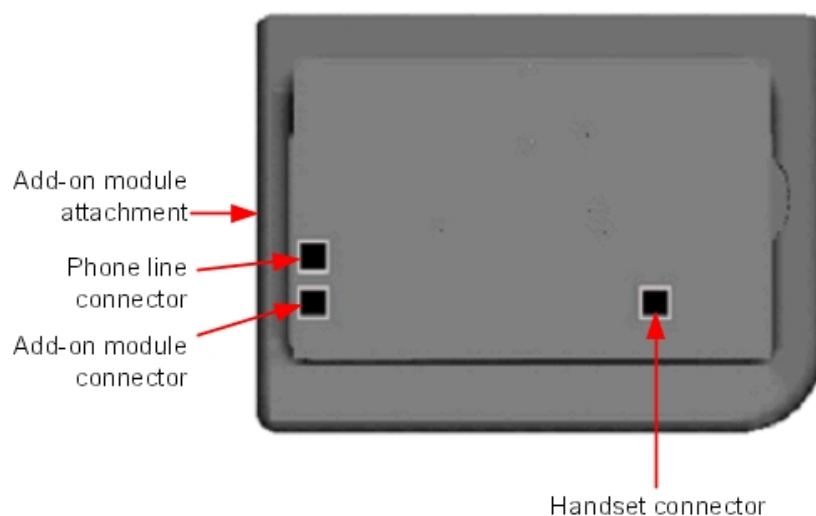


Figure 4.47: Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone connectors

#### 4.6.2.1.2 Commissioning the sets

This section describes how to:

- Connect the sets



- Connect optional equipment
- Program keys

### Prerequisites

None.

### Connecting the sets

This section describes how to connect a set to the telephone system.

### Prerequisites

None.

### Connecting to the telephone system

To connect a set to the telephone system:

1. Turn the set over so that you can see its base.
2. Plug the RJ11 cable into the set's UA port/phone line connector.
3. Connect the RJ11 cable to a UA port in the telephone system.

### Connecting optional equipment

This section describes how to:

- Connect an Add-On module (AOM) to the sets
- Connect a headset
- Connect an external hands-free device

### Connecting an Add-On module to the sets

Add-On Modules (AOMs) can be connected to the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets. They are added to the right side of the set.

Three types of Add-On Module exist and provide keys associated with icons:

- AOM10 provides 10 keys
- AOM40 provides 40 keys
- AOM Alcatel-Lucent 8 series and Alcatel-Lucent 9 series Smart Display Module provides 14 keys with programmable LCD labels

### Prerequisites

None.

### Rules and restrictions

The following rules apply to the use of Add-On Modules with the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets:

- A maximum of three Add-On Modules of the types AOM10 and AOM40 can be connected to each set, providing up to 120 additional keys.
- A maximum of three Smart Display Modules can be connected to each set, providing up to

42 additional keys.

- Add-On Modules of types AOM10 and AOM40 can be used on the same set, but a Smart Display Module cannot be used in conjunction with an AOM10 or AOM40.
- If an AOM10 is used with other Add-On Modules, it must be connected as the last module on the far right of the set.

### Connecting Add-On Modules

To connect an Add-On Module:

1. Remove the tab located on the right side of the set.
2. Plug the Add-On Module's RJ45 connector into the set's RJ45 connector.
3. Insert the Add-On Module attachments into the appropriate holes located on the right side of the set.
4. Screw the Add-On Module to the set.

*Note:*

*If the set is on when you plug in an Add-On Module, you must restart the set after connection.*

### Connecting headsets

The headset jack is located on the left side of the set.

The 3.5 mm female jack can receive a headset jack.

The hands-free key allows you to switch from handset to headset.

### Prerequisites

None.

### Connecting a headset

To connect a headset, simply plug the headset jack into the associated connector on the side of the set.

### Connecting an external hands-free device

The external device jack is located on the left side of the set.

The 3.5 mm female jack can receive the jack of an external hands-free device.

In order to take the external hands-free device into account, the set's customization for the jack must be set to "Handsfree".

### Prerequisites

None.

### Connecting an external hands-free device

To connect an external hands-free device, plug the external device's jack into the associated connector on the side of the set.

### Programming keys

This section describes how to program a programmable key from the:

- F1/F2 keys
- Add-On Module keys (if any)
- virtual add-on keys

Two methods are presented.

### Programming a key

To program a key:

1. From the **MENU** tab, select **Settings**.  
*The Settings menu appears.*
2. From the **Settings** menu, select **Keys**.  
*The virtual add-on keys appear.*
3. Select the key to be programmed, as follows:
  - To program a virtual add-on key, scroll using the up/down navigator keys until you reach the required virtual key and then press the corresponding soft key.
  - To program the F1 or F2 key, or a key on a connected Add-On Module, simply press this key.
4. Select **Name** and enter the name to be associated with the selected key, then press **OK**.  
*The desired name is associated with the key.*

*Note:*

*As of release 6.0 of Alcatel-Lucent OmniPCX Office Communication Server, it is possible to use Unicode - Chinese and Cyrillic - characters. It is at this step that it becomes active, if used. For more information about IME, refer to the section Operation - Input Method Editor in this chapter.*

5. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.  
*The desired number is associated with the key.*
6. Press **Exit** to go back to home page.

### Programming a key (fast customization)

You can also program a key using the following method:

1. Select the key to be programmed, as follows:
  - To program a virtual add-on key, from the **PERSO** tab press **i** followed by the required key.
  - To program the F1 or F2 key, or a key on a connected Add-On Module, from any tab press **i** followed by the required key.
2. Select **Name** and enter the name to be associated with the selected key, then press **OK**.  
*The desired name is associated with the key.*
3. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.  
*The desired number is associated with the key.*
4. Press **Exit** to go back to the home page.

## 4.7 V24/CTI Interface Module

## 4.7.1 Hardware description

### 4.7.1.1 Overview

The V24/CTI Interface Module allows a Data Terminal Equipment (DTE) to be connected to the OmniPCX Office, via a UA link, by means of an RS232 serial link (CTI port) or a V24 link.

The V24/CTI Interface Module can be used alone or combined with an Alcatel-Lucent 9 series set.

The V24/CTI Interface Module replaces the 4093 PLUGWARE V24/CTI. The two interface modules can operate together: a data link can be set between an V24/CTI Interface Module Interface Module and a 4093 PLUGWARE V24/CTI.

*Note:*

*The V24/CTI Interface Module is also compatible with UA 3G sets.*

#### CTI port

The RS232 serial link carries signalling (up to 9600 bit/s) and allows telephone operations such as call management and call monitoring. The audio part is carried out by the associated dedicated set.

#### V24 port

The V24 port is considered as a DCE and provides a capacity of 19200 bit/s (ECMA 102) for an asynchronous V24 transmission. The electrical interface complies with the V28 recommendation of the CCITT.

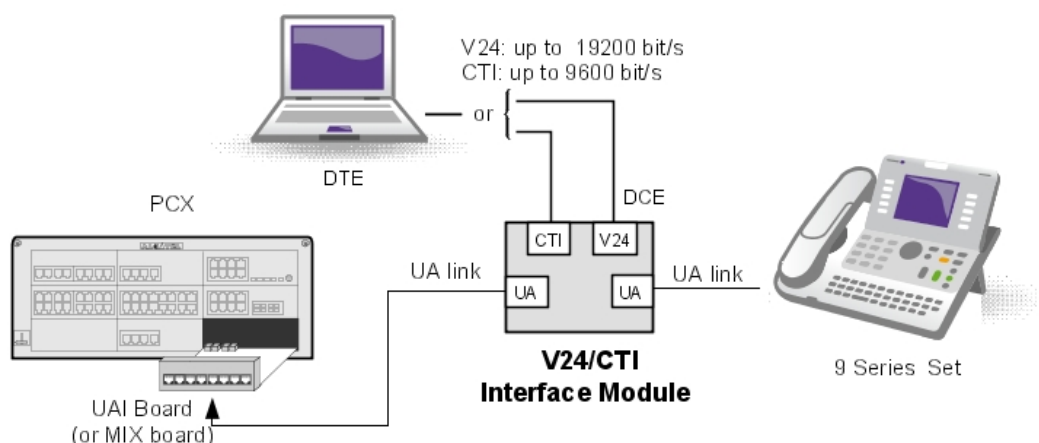


Figure 4.48: V24/CTI Interface Module Configuration Example

### 4.7.1.2 Compliant Standards

#### 4.7.1.2.1 Safety Requirements

- EN60950: European requirements
- UL 1950: US requirements
- CAN/CSA-C22.2 No 950-95: Canada

#### 4.7.1.2.2 ECM

- EN55022: Limits and methods of measurement of radio interference characteristics of information technology equipment
- EN55024: Limits and methods of measurement of immunity characteristics of information technology equipment
- FCC part15: US requirements

#### 4.7.1.2.3 V24 & CTI

- CCITT Rec.: V24, V28, V25bis, V54, V110
- Hayes protocols
- ECMA 102: Attachment requirements for pan-European approval for connection to PSTN of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of DTMF signalling

#### 4.7.1.2.4 Environment Classes

- ETS 300 019: Environmental conditions and tests for telecommunication equipment:
  - Part 1-1: Storage
  - Part 1-2: Transportation
  - Part 1-3: Environmental conditions

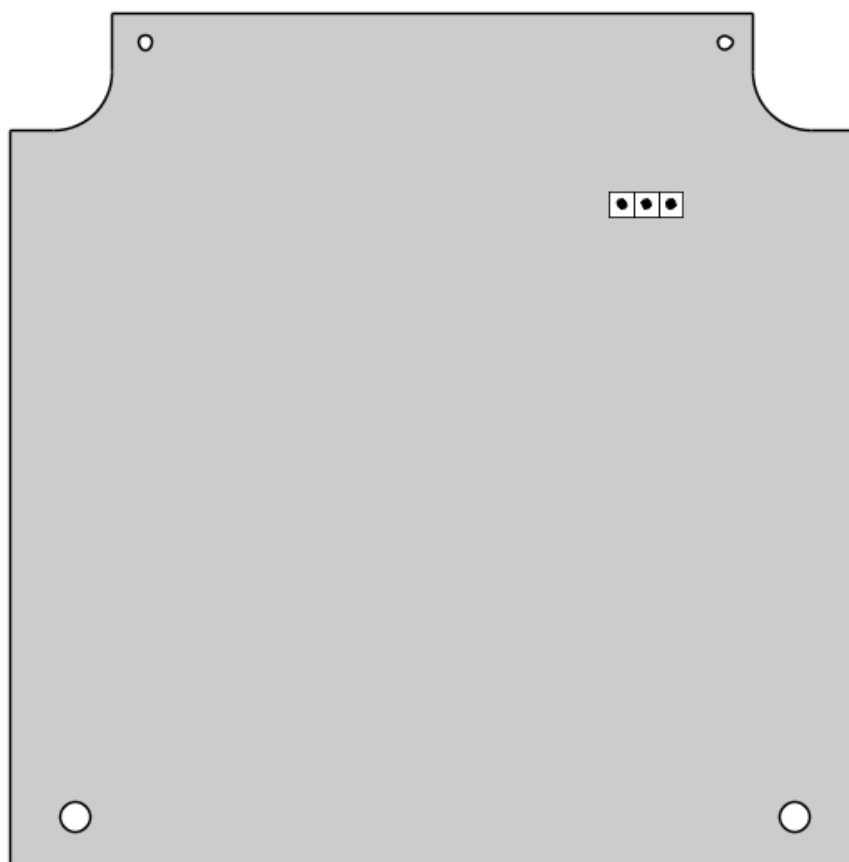
#### 4.7.1.2.5 Eco Design

- ISO 14040: Environmental management – Life cycle assessment – Principles and framework (1997)
- RoHS

### **4.7.2 Hardware configuration**

#### *4.7.2.1 Overview*

**Serial number: 3GV27015AB**



#### 4.7.2.2 Jumpers

The jumper in a gray background is factory installed.

	Associated UA Set	Stand Alone
Operation Mode		

To configure the V24/CTI Interface Module, open the device with the 2 screws located under the module.

If the jumper is positioned for "stand-alone" operation, an associated set cannot work.

If the jumper is positioned for "associated UA set" operation, the associated set is mandatory, the Interface Module cannot work without it.

### 4.7.3 External connections

#### 4.7.3.1 V24/CTI Interface Module Connection

The V24/CTI Interface Module is connected as follows:

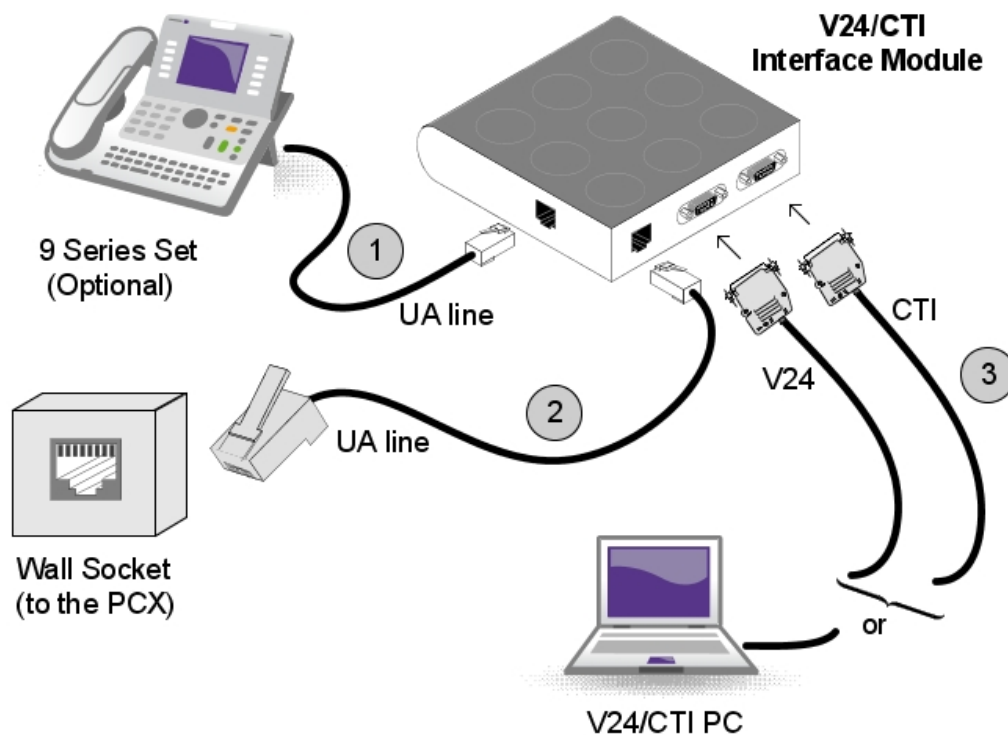


Figure 4.51: V24/CTI Interface Module Connection

The V24/CTI Interface Module is connected to:

1. The digital set 3 m maximum length ( RJ11/RJ11 cable)
2. The PCX via a wall socket and a distributor frame
3. The CTI or V24 terminal:
  - V24: 3m maximum length
  - CTI: 3m maximum length

#### 4.7.3.2 V24/CTI Interface Module Rear Panel Details

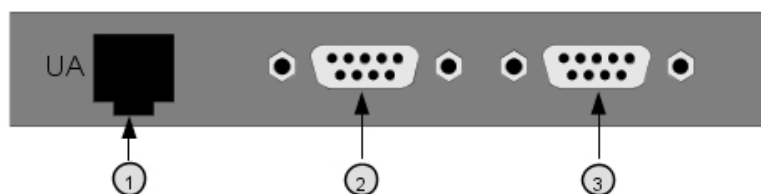


Figure 4.52: Rear Panel

1. RJ11 connector for UA line to PCX

2. V24 SUBD9 connector
3. CTI SUBD9 connector

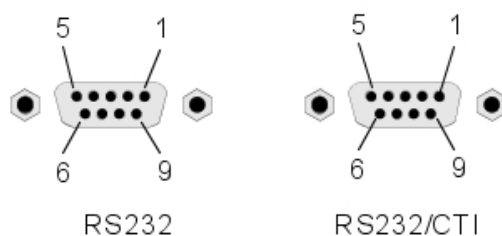


Figure 4.53: Connector Details

RS 232 port (V24):

Pin	Signal	Description
1	DCD	Data Carrier Detect.
2	TX	Transmit data.
3	RX	Received data.
4	DTR	Data Terminal Ready.
5	GND	Protective ground.
6	DSR	Data Set Ready.
7	RTS	Request To Send.
8	CTS	Clear To Send.
9	RI	Ringing Indicator.

CTI port:

Pin	Signal	Description
1		
2	TX	Data transmission
3	RX	Data reception
4		
5	GND	Protective ground
6		
7	RTS	Transmission request
8	CTS	Ready for transmission
9		

## 4.8 AP Interface Module

### 4.8.1 Hardware description



#### 4.8.1.1 Overview

The AP Interface Module (Analog Peripheral) allows an analog device such as fax, modem, minitel, answering machine to be connected to the Alcatel-Lucent OmniPCX Office Communication Server via a UA link.

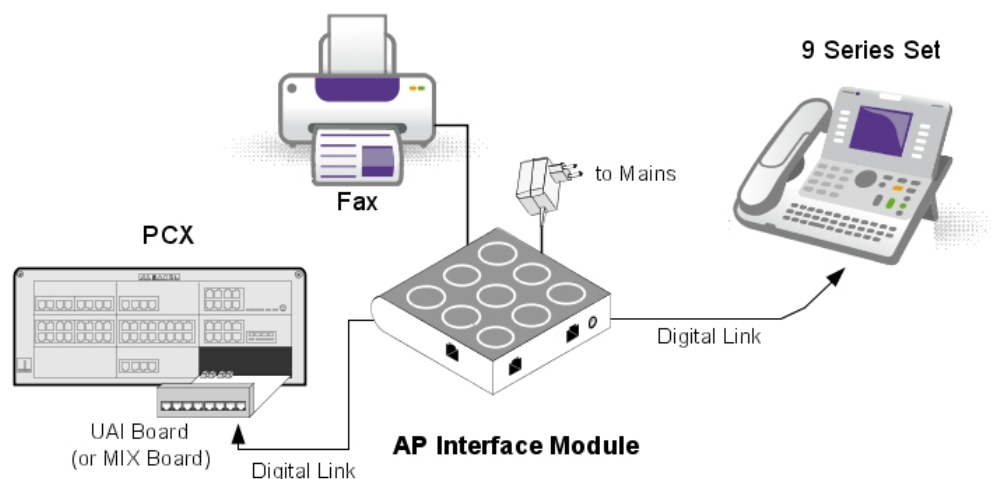


Figure 4.54: Example of Configuration with an AP Interface Module

AP Interface Module can be used alone or combined with an Alcatel-Lucent 9 series set.

*Note:*

*The AP Interface Module is also compatible with Alcatel Reflexes sets.*

AP Interface Module powers the analog device (DTMF signalling, ringer) and, to do this, requires an external power supply (230V AC/30V AC adapter). In this document, this set is called Z set.

#### 4.8.1.2 Compliant Standards

##### 4.8.1.2.1 Safety Requirements

- EN60950: European requirements
- UL 1950: US requirements
- CAN/CSA-C22.2 No 950-95: Canada

##### 4.8.1.2.2 ECM

- EN55022: Limits and methods of measurement of radio interference characteristics of information technology equipment
- EN55024: Limits and methods of measurement of immunity characteristics of information technology equipment
- FCC part15: US requirements

##### 4.8.1.2.3 Analog Transmission

- ETS 300 439: Business TeleCommunications (BTC); Transmission characteristics of digital Private Branch eXchanges (PBXs)
- TBR21: Attachment requirements for pan-European approval for connection to PSTN of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of DTMF signalling

#### 4.8.1.2.4 Environment Classes

- ETS 300 019: Environmental conditions and tests for telecommunication equipment:
  - Part 1-1: Storage
  - Part 1-2: Transportation
  - Part 1-3: Environmental conditions

#### 4.8.1.2.5 Eco Design

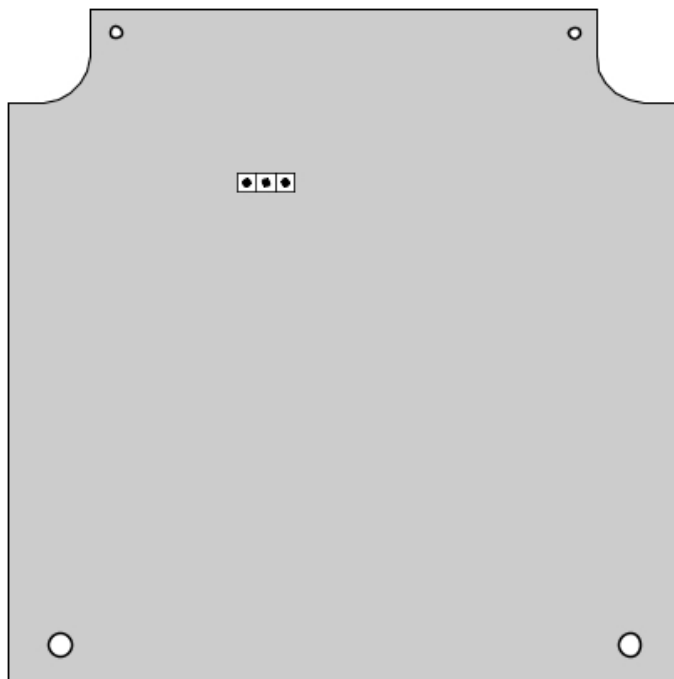
ISO 14040: Environmental management – Life cycle assessment – Principles and framework (1997)

### 4.8.2 Hardware configuration

#### 4.8.2.1 Overview

**Commercial Serial number: 3GV27014xx**

**Technical Serial number: 3GV26014xx**





*Note:*

*xx represents 2 letters depending on country.*

### 4.8.2.2 Jumper

The jumper in a gray background is factory installed.

	Associated digital set	Stand alone
Operating mode		

To configure the AP Interface Module, open the device with the 2 screws, located under the module.

If the jumper is positioned for "stand-alone" operation, an associated set cannot work.

If the jumper is positioned for "associated digital set" operation, an associated set is mandatory, the Interface Module cannot work without it.

## 4.8.3 External connections

### 4.8.3.1 Connecting AP Interface Module

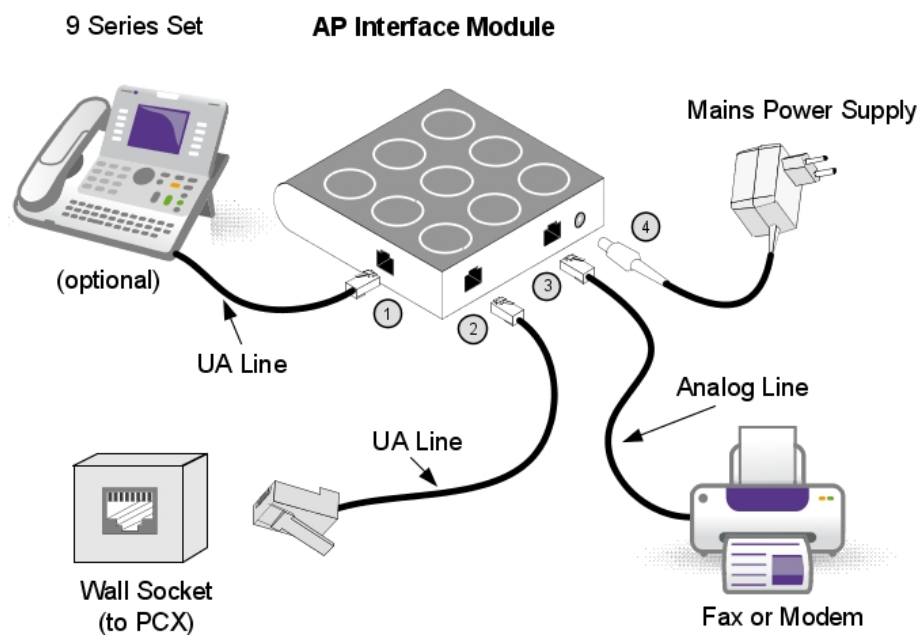


Figure 4.57: AP Interface Module Connections

The AP Interface Module is connected to:

1. Digital set ( RJ11/RJ11 cable). 3 m maximum length
2. Alcatel-Lucent OmniPCX Office Communication Server via a wall socket and a distributor

frame.

Connect an AP module is identical to connect a digital set.

Maximum length between AP module and PCX depends on cable quality. For example:

- LY 0.5 mm cable: up to 800 m
- Ref 278 0.6 mm cable: up to 1200 m

3. Analog device with an RJ45 or RJ11 cable. 100 m maximum length
4. Power supply unit (see details below)

**Caution:**

**The mains power supply unit is used as a sectioning device. This device should be easily accessible.**

#### 4.8.3.2 Rear Panel Details



Figure 4.58: AP Interface Module Rear Panel

1. Socket for UA line to PCX
2. RJ45 socket for analog device connection
3. Power supply socket

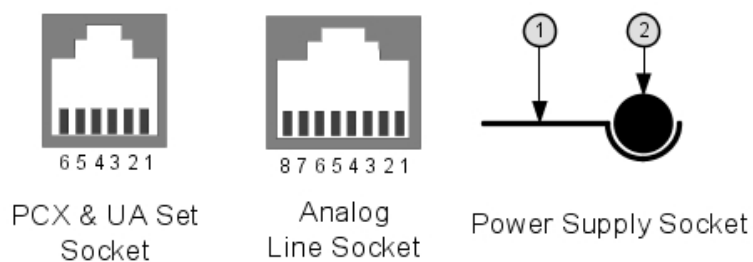


Figure 4.59: Socket Details

PCX and digital set socket:

Pin	Description
1	Not used
2	External Ringing 1
3	UA line 1
4	UA line 2
5	External Ringing 2

6	Not used
---	----------

Analog device socket:

Pin	Description
1	Not used
2	Not used
3	Not used
4	Analog line
5	Analog line
6	Not used
7	Not used
8	Not used

Power supply connector:

Pin	Description
1	26V AC
2	26V AC

#### 4.8.3.3 *Power Supply Details*

The power supply unit depends on country:

Reference	Characteristics	Country
1AF01101BAAA	230V AC/26V AC 130mA	Europe
1AF01101DAAA	230V AC/26V AC 130mA	UK
1AF01101AAAA	115V AC/26V AC 130mA	USA

#### 4.8.3.4 *Environment*

Working temperature: 5°C to 45°C

Stocking temperature: -40°C to 70°C

Relative humidity: 5% to 85%

## 4.9 **S0 Interface Module**

### 4.9.1 **Hardware description**

#### 4.9.1.1 *Overview*

The S0 Interface Module allows an S0 bus (2 B + 1 D channels) to be connected to the Alcatel-Lucent OmniPCX Office Communication Server via a UA link. This bus allows S0 terminals (S0 sets, PCs equipped with an S0 interface, Fax G4, modem, etc.) to be connected.

The S0 Interface Module can be used alone or combined with an Alcatel-Lucent 9 series set.

*Note:*

*The S0 Interface Module is also compatible with Alcatel Reflexes sets*

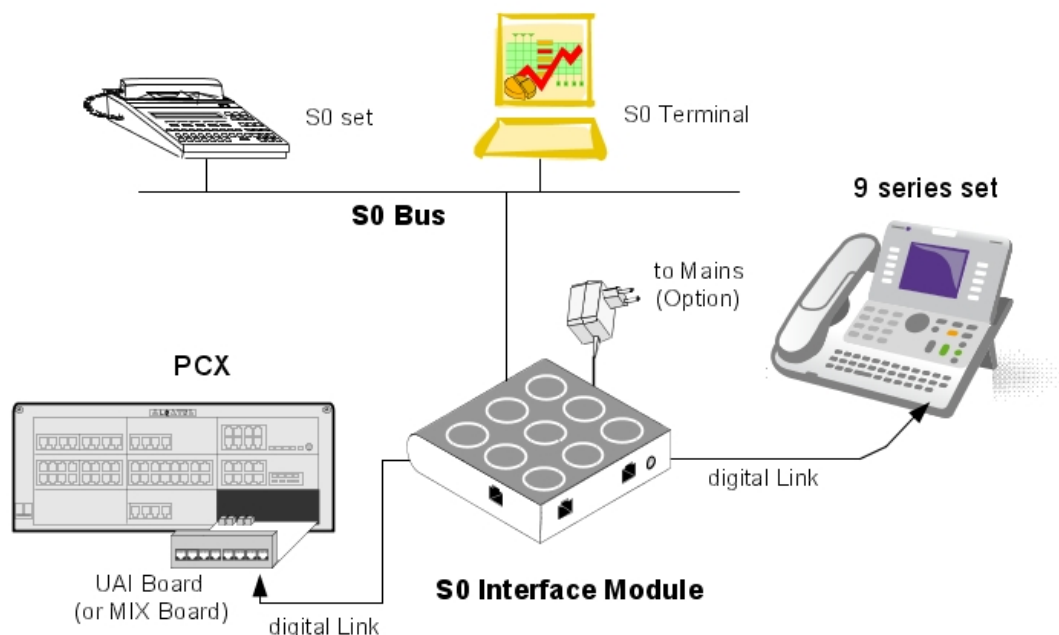


Figure 4.60: Example of Configuration with an S0 Interface Module

The S0 module provides an S0 bus supplying power. An external power supply (230V AC/48V DC adapter) is required.

There are two possible operating modes on the S0 bus:

- Non permanent layer: layer 1 must be set up by the calling end (PCX or terminal) at the start of each call; layer 1 is shut down at the end of the call
- Permanent layer: operation of the S0 bus depends on the direction in which the initial call was set up:
  - If the call was set up from the PCX to the terminal, layer 1 is kept when the call ends.
  - If the call was set up from the terminal to the PCX, layer 1 is shut down at the end of the call. It must be set up again for the following call. If operation is incompatible with the terminal used, there are two possible solutions: Either layer 2 is kept, this prevents layer 1 being shut down, or, layer 1 is set up from the PCX by making a call to the terminal. The call does not need to get through.

#### 4.9.1.2 Compliant Standards

##### 4.9.1.2.1 Safety Requirements

- EN60950: European requirements
- UL 1950: US requirements
- CAN/CSA-C22.2 No 950-95: Canada

##### 4.9.1.2.2 ECM

- EN55022: Limits and methods of measurement of radio interference characteristics of information technology equipment
- EN55024: Limits and methods of measurement of immunity characteristics of information technology equipment
- FCC part15: US requirements

#### 4.9.1.2.3 ISDN

- ETS 300 012: Basic user-network interface layer 1 specification and test principles
- TBR3: Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access
- ETS 300 047: Basic access-safety and protection
- I.430: Basic user-network interfaces layer 1 specification

#### 4.9.1.2.4 Environment Classes

- ETS 300 019: Environmental conditions and tests for telecommunication equipment:
  - Part 1-1: Storage
  - Part 1-2: Transportation
  - Part 1-3: Environmental conditions

#### 4.9.1.2.5 Eco Design

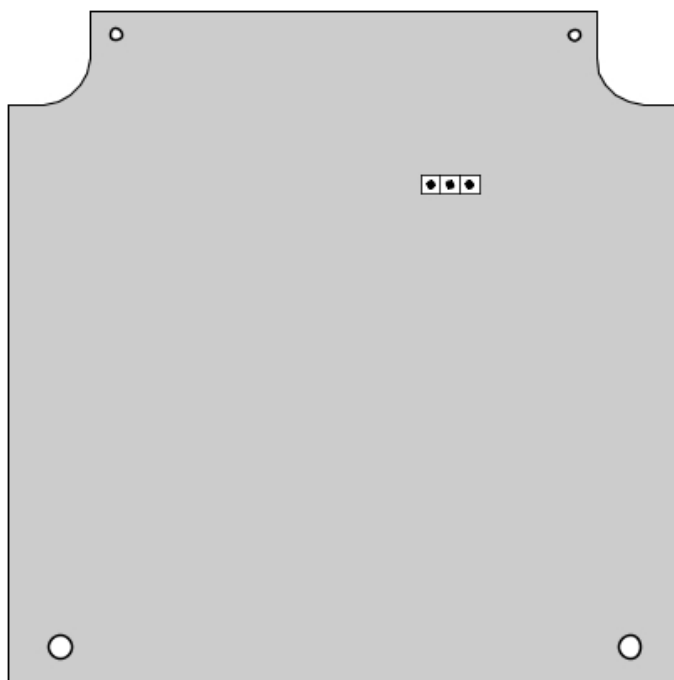
ISO 14040: Environmental management – Life cycle assessment – Principles and framework (1997)

### 4.9.2 Hardware configuration

#### 4.9.2.1 Overview

**Commercial Serial number: 3GV27016AB**

**Technical Serial number: 3GV26016AB**



#### 4.9.2.2 Jumper

The jumper in a gray background is factory installed.

Operating Mode	Associated Digital Set	Stand Alone

To configure the S0 Interface Module, open the device with the 2 screws, located under the module.

If the jumper is positioned for "stand-alone" operation, an associated set cannot work.

If the jumper is positioned for "associated digital set" operation, an associated set is mandatory, the Interface Module cannot work without it.

### 4.9.3 External connections

#### 4.9.3.1 Connecting the S0 Interface Module



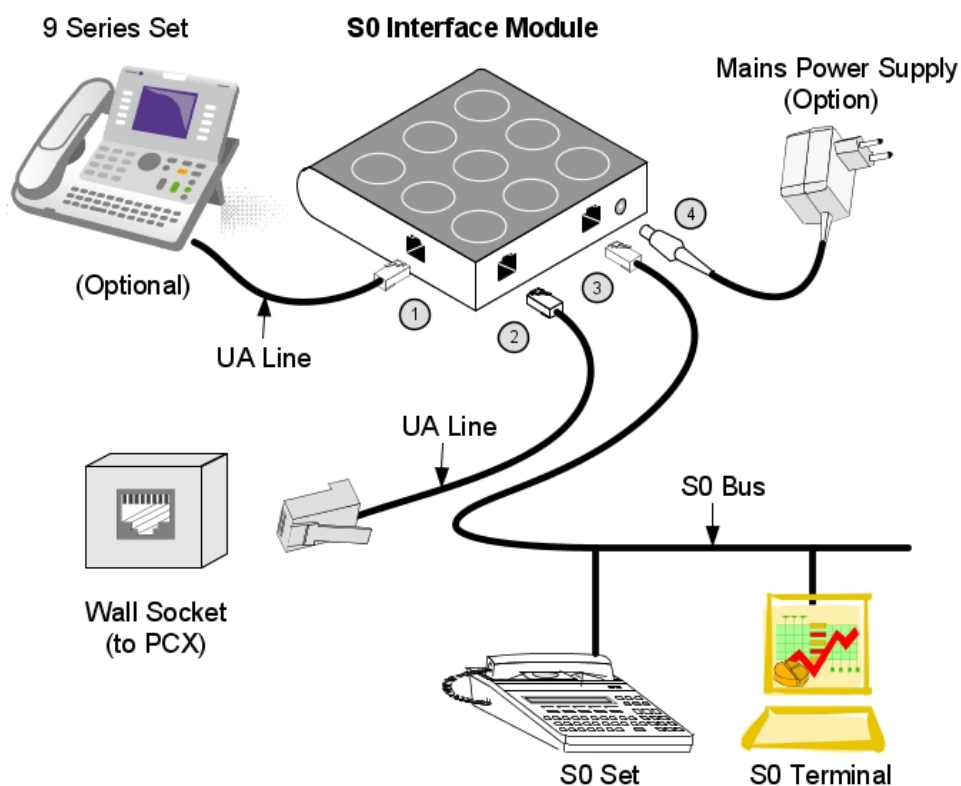


Figure 4.63: S0 Interface Module Connection

The S0 module is connected to:

1. A digital set (optional), via an RJ11/RJ11 cable of a 3 m maximum length
2. The Alcatel-Lucent OmniPCX Office Communication Server, via a wall socket and a distributor frame  
Connecting an S0 module is identical to connecting a digital set.  
The maximum length between the S0 module and the PCX depends on cable quality. For example:
  - LY 0.5 mm cable: up to 800 m
  - Ref. 278 0.6 mm cable: up to 1200 m
3. The S0 bus.
4. A Mains power supply unit: AC/DC converter (see details below)  
**CAUTION:** The mains power supply unit is used as an S0 module sectioning device. This device should be easily accessible.

#### 4.9.3.2 Alcatel-Lucent S0 Interface Module Rear Panel Details



Figure 4.64: Rear Panel Details

1. RJ11 socket for UA line
2. RJ45 socket for S0 bus
3. Power supply socket

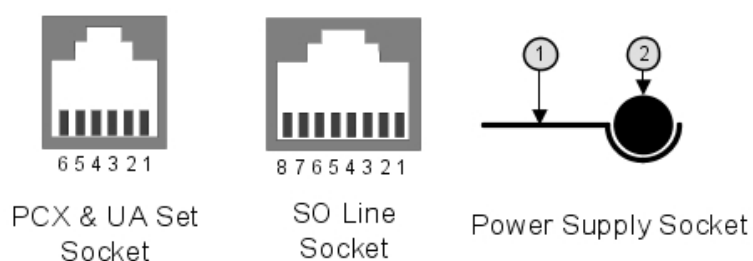


Figure 4.65: Socket Details

PCX and digital set socket:

Pin	Description
1	Not used
2	External Ringing 1
3	UA line 1
4	UA line 2
5	External Ringing 2
6	Not used

S0 bus RJ45 socket:

Pin	Description	Polarity
1	Not used	
2	Not used	
3	Transmission	+
4	Reception	+
5	Reception	—
6	Transmission	—
7	Not used	

8	Not used	
---	----------	--

Power supply socket:

Pin	Description
1	0V
2	40V DC

#### 4.9.3.3 Power Supply Details

The interface module local power supply is required only when S0 terminals do not have their own local supply.

The power supply unit depends on country:

Reference	Characteristics	Country
1AF00446CAAA	230V AC/42V DC 150mA	Europe
1AF00446ABAA	127V AC/44V DC 150mA	Brazil
1AF00446AGAA	220V AC/42V DC 150mA	Argentina
1AF00446ASAA	240V AC/42V DC 150mA	Australia
1AF00446AUAA	115V AC/42V DC 150mA	USA
1AF00446BAAA	230V AC/42V DC 150mA	UK

#### 4.9.3.4 Environment

Working temperature: 5°C to 45°C

Stocking temperature: -40°C to 70°C

Relative humidity: 5% to 85%

## 4.10 Intelligent Base Stations

### 4.10.1 Detailed description

This notice describes the rules to follow for an installation comprising three or four DECT bases.

For a larger installation, a preliminary study must be carried out using coverage tools. The bases are then installed according to the results of this study.

#### 4.10.1.1 CONNECTION

The Alcatel-Lucent 4070 IO is designed for internal installation in the building, while the Alcatel-Lucent 4070 EO is designed for external installation.

The 4070 EO IBS comes in a plastic box and is protected against temperature variation.

The 2 antennae are outside the box so that they both have the same signal reception.

Intelligent Base Stations (IBS) are fitted with a red LED that gives information about the state of the Base Station:

- Fixed LED:
  1. Software downloading
  2. Initialization phase, waiting for synchronization
  3. Software problem, IBS stopped.
- Fast blink: There is a problem with the line.
- Short ON, long OFF: Running on 1 UA link.
- 500ms OFF, 500ms ON: Running on 2 UA link.

The IBSs can run and be powered remotely by the UA access (this is the most common configuration). But they can also be powered by a power device. This is used when there are a lot of IBSs and the system power cannot support all the connected IBSs.

A base station may be connected to 1 or 2 UA links (UAI boards) and allows 3 or 6 simultaneous connections with DECT/GAP terminals.

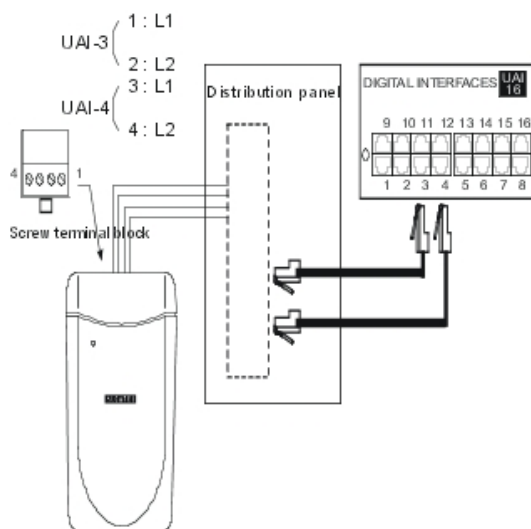
The need for three or six communication channels depends on the number of cordless stations and on the DECT traffic to be managed.

In the event of a two-cable connection:

- use two interfaces neighboring a UAI board
- use the even-numbered interface for the master link and the other for the slave link.



Both cables should have the same length. The first interface of the system's UAI16 board should not be used since the operator station uses those points.



#### 4.10.1.2 NUMBER OF USEFUL BASE STATIONS

Any radio signal is subject to various propagation phenomena: attenuation, reflection and diffraction. These phenomena are related to the environment of the Alcatel-Lucent 4070 IO/EO, and affect the radio performance of the system.

The effects can improve or deteriorate wave propagation.

Take as an example a building with a metallic structure. A radio wave will tend to be subject to many reflections which will consequently degrade system performance.

Moreover, the range of an Alcatel-Lucent 4070 IO/EO is very dependent on the amount of attenuation subjected to the radio wave across various zones.

The following table gives the values of global coverage zone (cell) for an Alcatel-Lucent 4070 IO/EO under normal environmental and topological conditions:

	<b>Interior</b>	<b>Exterior</b>
<b>Coverage area</b>	~ 50 m	~ 400 m
<b>Area:</b>	~ 7,000 m <sup>2</sup>	~ 50 000 m <sup>2</sup>

#### 4.10.1.3 NUMBER OF USERS PER BASE STATION

<b>Type of Base Station connection.</b>	<b>Number of DECT users</b>
3 channels	4
6 channels	12

#### 4.10.1.4 LOCATING DECT BASE STATIONS

As a result of the environment and the infrastructure, certain recommendations must be taken into account for locating Alcatel-Lucent 4070 IO/EO:

	<b>Recommendations for location</b>	<b>Possible solutions</b>
<b>INTERIOR COVERAGE</b>	As far as possible from walls	Suspend Alcatel-Lucent 4070 IO/EO in a clear zone
	Do not fix directly to a metallic structure	Move Alcatel-Lucent 4070 IO/EO into another zone
	Do not place in false ceilings or in telecom rooms	Place Alcatel-Lucent 4070 IO/EO in useful zones (corridors)
	As far as possible from industrial machines or electrical cabinets	Place 4070 IO/EO in useful zones
<b>EXTERNAL COVERAGE</b>	Place the base stations in an open space (as far as possible from buildings)	Attached to pylons for example
	Place the base stations higher than low obstacles (trees, cars etc.)	At the top of buildings on pylons for example

#### 4.10.1.5 INTERACTIONS

##### **Interactions with other features**

IBS DECT and IBS PWT (Personal Wireless Telecommunications) cannot run together on the same system. The first IBS plugged determines the system type (DECT or PWT).

To switch from one system to another, unplug all IBSs, make a warm restart and plug in the IBSs.

##### **Interactions with other applications**

IBSs are fully compatible with other wireless technologies such as VOWLAN.

**Interactions with other software releases**

OmniPCX Office release 5.1 requires 4 kinds of DECT initialization: Europe, Latin America, United-States and China. See also: [IBS CONFIGURATION](#) .

**4.10.1.6 LIMITS**

Number of IBSs: 20 IBSs per cabinet is recommended, however, the number of IBSs is only restricted by the available power.

DECT link limit: 3 links on an IBS with one UA access, 6 links on an IBS with 2 UA accesses.

DECT handset limit: up to 120 handsets on a system.

**4.10.1.7 PERFORMANCE AND QUALITY**

IBSs are downloaded during the system start phase or when hot plugged. A system with many IBSs plugged might take longer to complete the start phase.

Downloading 1 IBS takes about 30 seconds. It takes more time when several IBSs are plugged on the same UA resource.

The end of restart is only possible after all the devices have been taken into account.

If an **IBS downloading fails**, the IBS restarts with the previously installed software.

**4.10.1.8 IBS CONFIGURATION**

There is no hardware configuration for IBS other than selecting between an external power supply for each IBS and remote power by system.

To configure the IBS software:

**ARI Number**

The ARI number identifies each OmniPCX Office. Each OmniPCX Office has an identical default ARI number.

When you install a new OmniPCX Office, you have to change the default ARI number. You can only keep the first digit, which is "1" and which means "ARI type B".

- 1 In **OMC**, go to **System Miscellaneous** -->**DECT/PWT ARI/GAP**
- 2 Enter your own number (octal digit) to register your DECT handset.



Figure 4.67: ARI Number

*Note 1:*

*The **ARI Number** is the only non plug and play device on the IBS.*

*The default configuration fits with the major systems. Modifications should answer to specific needs.*

### Line length

The Line length is the cable length used to plug the IBS to the system (distance between the IBS and OmniPCX Office). It enables the system to add a delay in signal and to avoid a shift in clock signal that creates a reset of the IBS.

- 1 In **OMC**, go to **Users/Base stations List**.
- 2 Select the **IBS Master** and click **Details**

There are 3 possibilities of configuration:

- Short line (0-400 meters)
- Medium line (400-800 meters)
- Long line (800-1200 meters)

Restart the IBS after you have modified the Line length parameter.

### Antenna diversity

Antenna diversity is the ability of the IBS to move the transmission and reception from one antenna to the other so that the signal is always of the highest quality.

Restart the IBS after you have modified the Antenna diversity parameter.

### Silent-Noisy IBS

Enable the Silent-Noisy IBS parameter to set up the echo canceller device.

The IBS is fitted with a software device that analyses audio signals and eliminates echo and noises. This device is activated by default.

When an IBS is deployed in a noisy environment, a lot of signals, including Speech ones, are eliminated while in Conversation state. This leads to bad Speech quality.

You have the option to disable the echo canceller. In that way, the speech and the noise signals are not filtered. It is then to the user to identify the speech.

### Frequency plan

In **OMC**, go to **System Miscellaneous# DECT/PWT Frequencies** to select signals. In OMC, you can configure both the DECT and PWT frequency plans, regardless of what types of handsets are plugged on the system.

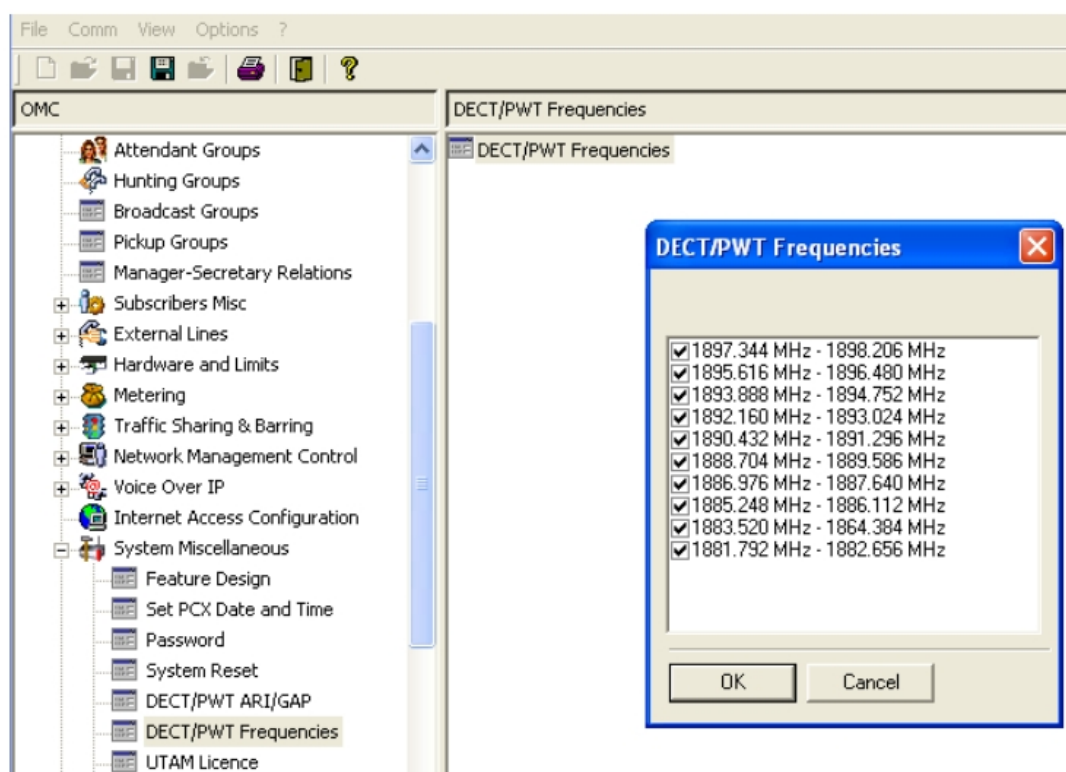


Figure 4.68: DECT/PWT Frequencies

*Note 2:*

*Due to hardware, there is a limit in the number of channels that you can configure.*

*You can configure the following numbers of channels:*

- DECT EUROPE, LATAM, CHINA: 1, 2, 4, 5, 8, 10 channels
- DECT US: 1, 2, 4, 5 channels
- PWT: 1, 2, 4, 5, 8 channels

#### 4.10.1.9 Initialization



Once the IBS finishes the downloading, the system starts the initialization.

The system synchronizes the signals of the IBSs so that handovers are possible. The system selects the T0, T2, or CPU main board clock as the source.

Then the system sends the following data:

- Fixed part capabilities (Full slot, frequency control, page repetition, setup on dummy, basic A field setup): value sent = 0x007910
- Line length: Short line
- Frequency plan (2 bytes)

Some countries have shifted DECT frequencies. In order to be compatible with all frequency bands in the different countries, 4 types of initialization of frequency plans are available:

Europe, Latin America, The United-States and China.

table 4.35: RF Band Europe

Channel	TX Freq	RX Freq
0	1897.344	1898.206
1	1895.616	1896.480
2	1893.888	1894.752
3	1892.160	1893.024
4	1890.432	1891.296
5	1888.704	1889.566
6	1886.978	1887.840
7	1885.248	1886.112
8	1883.520	1884.384
9	1881.792	1882.656

Note 1:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.36: RF Band China

Channel	TX Freq	RX Freq
0	1918.060	1918.944
1	1916.352	1917.216
2	1914.624	1915.446
3	1912.898	1913.760
4	1911.188	1912.032
5	1919.440	1910.304
6	1907.712	1908.576
7	1905.964	1906.848
8	1904.256	1905.120

9	1902.528	1903.392
---	----------	----------

Note 2:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.37: RF Band Latam

Channel	TX Freq	RX Freq
0	1928.448	1929.312
1	1926.720	1927.584
2	1924.992	1924.992
3	1923.264	1923.264
4	1921.536	1921.536
5	1919.808	1919.808
6	1918.060	1918.060
7	1916.352	1916.352
8	1914.624	1914.624
9	1912.896	1912.896

Note 3:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.38: RF Band US

Channel	TX Freq	RX Freq
3	1928.448	1929.312
4	1926.720	1927.584
5	1924.992	1925.856
6	1923.264	1924.128
7	1921.536	1922.400

Note 4:

By default, only 5 frequencies used

Value sent to IBS: 0x03E0

0000 0011 1110 0000

table 4.39: RF Band PWT

Channel	Center Freq
0	1929.375
1	1928.125

2	1926.875
3	1925.625
4	1924.375
5	1923.125
6	1921.875
7	1920.625

*Note 5:*

*By default, 8 frequencies used*

*Value sent to IBS: 0x03FC*

*0000 0011 1111 1100*

## **4.10.2 Safety rules**

### **4.10.2.1 ENVIRONMENTAL PROTECTION**

For an exterior installation, it is necessary to take precautions against lightning affecting the location of the Alcatel-Lucent 4070 IO/EO.

#### **4.10.2.1.1 Conditions for using lightning protection:**

Protection of Alcatel-Lucent 4070 IO/EO against lightning should be used when they:

- are less than 1.5 m from a wall more than 2 m below the antenna.
- use an external airborne connection between the base station and the system.

### **4.10.2.2 RECOMMENDATIONS FOR EXPOSURE OF THE PUBLIC TO THE ELECTROMAGNETIC FIELD**

#### **4.10.2.2.1 MAGNETIC ABSORPTION RATE**

Exposure of the public to the electromagnetic field from DECT sets and base stations is measured using the Specific Absorption Rate (SAR) measuring unit. 2W/kg is the SAR limit value indicated in international recommendations and also in the European recommendation (1999/519/EC).

The DECT authorised SAR limit value is 2 Watts/kilogram on 10g of body tissue (local SAR). International recommendations include a safety margin for the public and take account of possible measuring variations.

##### **SAR values**

- Set: as the average power emitted from a set is lower than 20mW, the set is considered to comply without having to undergo any tests (see: EN 50371). The SAR value for DECT sets (e.g.: Mobile Reflexes) is not significant.
- Base station: the local SAR (head and chest) on 10g of body tissue for DECT base stations (e.g.: 4070) is lower than 0.5 W/kg (this is with an integrated omni-directional antenna).

#### **4.10.2.2.2 ANTENNAE CHARACTERISTICS**

### Integrated antennae

The following is a list of characteristics for integrated antennae:

- Bandwidth: 1.88 to 1.93 Ghz
- Impedance: 50 Ohms
- TOS: 1.5:1
- Gain: 3 dBi (maximum)
- Polarization: vertical (axis of the antenna)
- Width of the beam at 3 dB (vertical): 90°
- Radiation diagram: omni-directional in the horizontal plane.

### External antennae

According to the ETSI EN 301 406 standard, DECT antenna gain is limited to 12 dB +/-3dB. In the case of external directional antennae, if a minimum safety distance of 50 cm is respected, the SAR value is the same as the value obtained in the case of an integrated omni-directional antenna (and therefore, lower than: 0.5 W/kg).

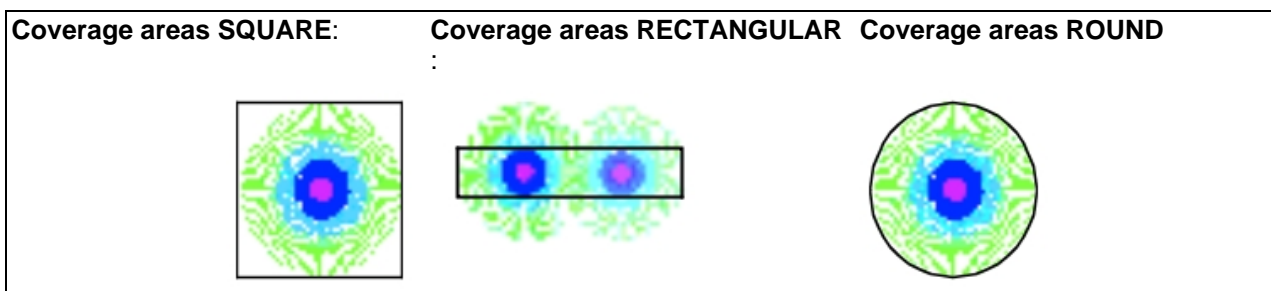
#### 4.10.2.2.3 CONFORMANCE PERIMETER FOR EXPOSURE OF THE PUBLIC

- Integrated omni-directional antennae: no limit for the conformance perimeter
- External antenna (directional): the installation must allow for a safety perimeter respecting a minimum distance of 50 cm.

#### 4.10.2.3 RECOMMENDATIONS FOR INSTALLATION

##### 4.10.2.3.1 Standard Topology.

The various building infrastructures are grouped into three types of geometric shape.



The distances quoted below give an idea of typical range of a base station. It is clear that a rectangular zone requires more base stations to provide full coverage.

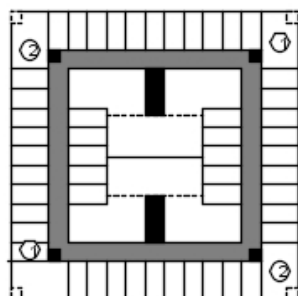
##### 4.10.2.3.2 Layout technique

For structures with a number of floors, different solutions can be envisaged as a function of:

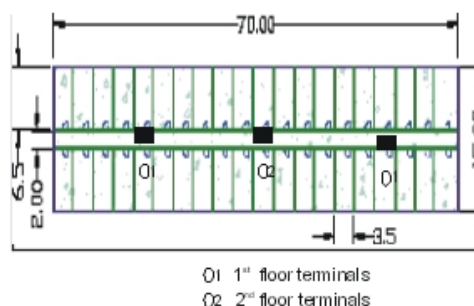
- the coverage obtained at each level.
- the position of the Alcatel-Lucent 4070 IO/EO (higher or lower level).

### Installation examples

**Square zone**

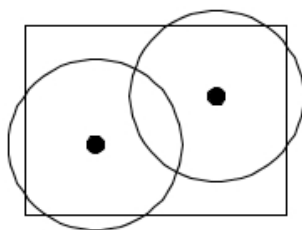


**Rectangular zone**

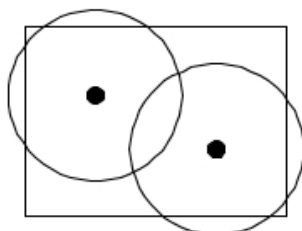


**Example 1: square building**

1<sup>st</sup> floor

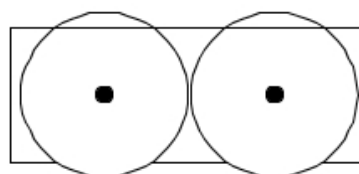


2<sup>nd</sup> floor

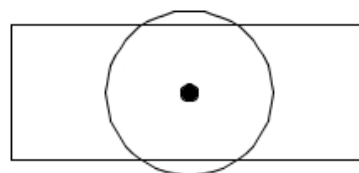


**Example 2: rectangular building**

1<sup>st</sup> floor



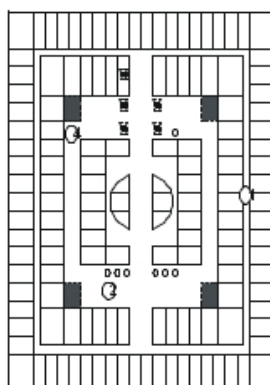
2<sup>nd</sup> floor



It is possible to alter the number of base stations used from one floor to another for this type of building.

The technique used is overlapping the location of base stations from one level to another. This technique can be used for alternate floors if the coverage of a level can be achieved from an adjacent level.

#### 4.10.2.3.3 Coverage depending on the infrastructure



Description:

1<sup>st</sup> floor: 66m x 42 m

(1) offices

(2) corridors

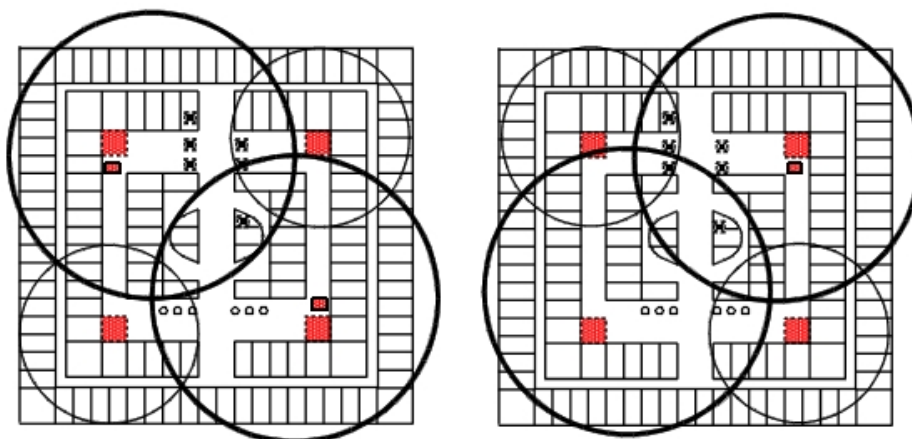
(3) lifts

(4) stairs

2 floors to cover

The solution proposed alternates two stations per floor with overlapping locations from one floor to another. The zones shown by unbroken circles correspond to the zones covered by each station (B1, B2, B3, B4).

The zones in bold correspond to the coverage at a given level from a station on the floor above or below.



## 4.11 PIMphony

### 4.11.1 Overview

Alcatel-Lucent PIMphony is a personal productivity tool that connects your phone terminal (dedicated, analog or DECT wireless set) with your computer, providing enhanced usage of your telephone.

PIMphony IP is an IP phone that provides the same level of features as PIMphony associated with an actual terminal. PIMphony IP is based on Voice over IP technology (VoIP). No physical terminal is required.

Alcatel-Lucent PIMphony also provides tight integration with the most popular PIMs (Personal Information Managers) on the market, enabling them for Computer Telephony.

*Note:*

*For information and details concerning Alcatel-Lucent PIMphony installation, refer to the Installation Manual section in the PIMphony Online Help.*

*The PIMphony Online Help is available:*

- from the PIMphony CD-Rom and the Documentation CD-Rom: open the aochelp.chm file to access the Online Help
- from the PIMphony application : once it is installed on your PC, press F1 to open the Online Help

### 4.11.2 Additional Information

#### 4.11.2.1 Hardware aspects

table 4.43: PCX Requirements

Version	Hardware Requirements
PIMphony 6.5	OmniPCX Office R5.x, R6.x, R7.x and R8.x

table 4.44: PC Requirements

Version	Hardware Requirements
PIMphony 6.5	PII 300 Mhz+ 128MB Ram + 2GB HD (140MB free space to install PIMphony) + SVGA (1024x768) + Ethernet Board + Keyboard + Mouse Sound card for PIMphony IP USB port or serial port for use of a headset with PIMphony IP

#### 4.11.2.2 Software aspects

table 4.45: Supported and unsupported software

<b>Supported Windows OS</b>	See <a href="#">table: Supported Windows OS</a>
<b>Unsupported Windows OS</b>	All Windows version before Windows 2000 SP4 Pro Only for PIMphony Multimedia : Windows Server 2003 It is not recommended to use PIMphony 6.3 in other than the above mentioned OS list.
<b>Internet Explorer</b>	Internet Explorer 6.0 or more recent
<b>Office</b>	Outlook 2000, XP, 2003, 2007, 2010 (32 bits and 64 bits edition) Access 2000, XP, 2003, 2007, 2010 (32 bits edition)
<b>Goldmine</b>	Goldmine 5.7 Goldmine 6.5, 6.7, 7.0, 7.5, 8.0, 8.5, 9.0
<b>Act</b>	Act! 6, Act! 2006 (8.0), Act! 2007 (9.0), Act! 2008 (10.0), Act! 2009 (11.0), Act! 2010 (12.0), Act! 2011 (13.0), Act! 2012 (14.0)
<b>Lotus Notes</b>	IBM Lotus Notes 5.02 to 6.5, Lotus Notes 8.0, Lotus Notes 8.5.

table 4.46: Supported Windows OS

OS	PIMphony	PIMphony IP	TSP	SPI for Microsoft TAPI Server
Windows 2000 Server (with SP4) [32 bits]	Yes	No	No	Yes
Windows 2000 Pro (with SP4) [32 bits]	Yes	Yes	Yes	No
Windows Server 2003 (with SP1 or SP2) [32 bits]	Yes	No	No	Yes
Windows Server 2003 R2 (with SP2) [32 bits]	Yes	No	No	Yes
Windows 2008 Server (with SP2) [32 bits]	Yes	No	No	Yes
Windows 2008 R2 Server (with SP1) [64 bits]	Yes	No	No	Yes
Windows XP [64 bits]	Yes	No	No	No
Windows XP Pro (SP1 or SP2 or SP3) [32 bits]	Yes	Yes	Yes	No
Windows XP Home (SP1 or SP2 or SP3) [32 bits]	Yes	Yes	Yes	No
Windows Vista 32 bit edition (with SP1)	Yes	Yes	Yes	No
Windows Vista 64 bit edition (with SP1)	Yes	No	No	No
Windows 7 (with SP1) [32/64bit]	Yes	Yes	Yes	No

#### 4.11.2.3 Limits

Simultaneous connected PIMphony users in HTTP: 200

Simultaneous connected PIMphony users in HTTPS: 25

*Note:*

*Hard disk has no impact on the limits.*

## 4.12 Reflexes Terminals

### 4.12.1 Installation procedure

#### 4.12.1.1 REMINDER: SYSTEM - Alcatel Reflexes TERMINAL SEPARATION


- SYT type 0.5 mm cable: 800 m (terminal without option) or 600 m (terminal with S0 or Z option)
- 278 type 1.6 mm cable: 1200 m (terminal without option) or 850 m (station with S0 or Z option)

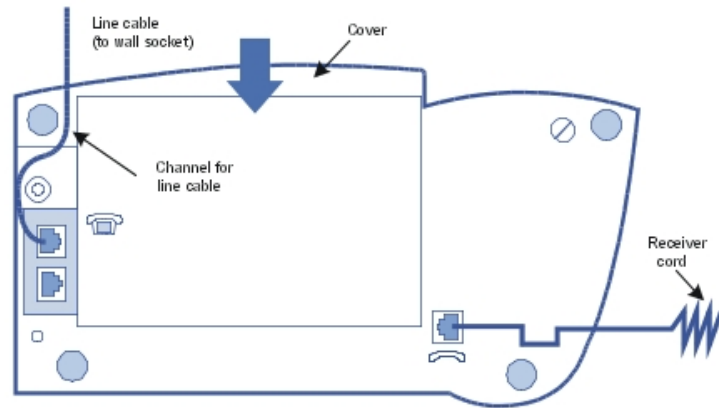
#### 4.12.1.2 Premium AND Advanced Reflexes TERMINALS

##### 4.12.1.2.1 Attaching the line cable:


- Turn the terminal
- Remove the panel at the rear of the terminal (pull it towards the interior of the terminal and then pull it out).



- Plug in the line cable(connector ) and position it as shown in the illustration below.
- Replace the panel.



#### 4.12.1.2.2 Attaching the handset cable:

- Turn the terminal
- Plug in the handset cable (connector ) into the guide intended for this purpose.

#### 4.12.1.2.3 Wall mounted

##### Preparing Premium Reflexes terminals

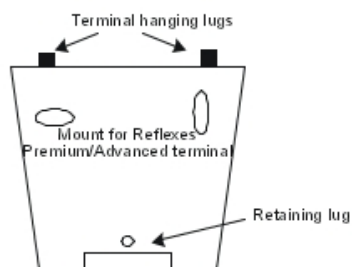
- Turn the terminal
- Use a screwdriver to remove the two upper rubber feet.

##### Preparing Advanced Reflexes terminals

- Turn the terminal
- Use a screw driver to remove only the left rubber foot.


##### Mounting the terminal

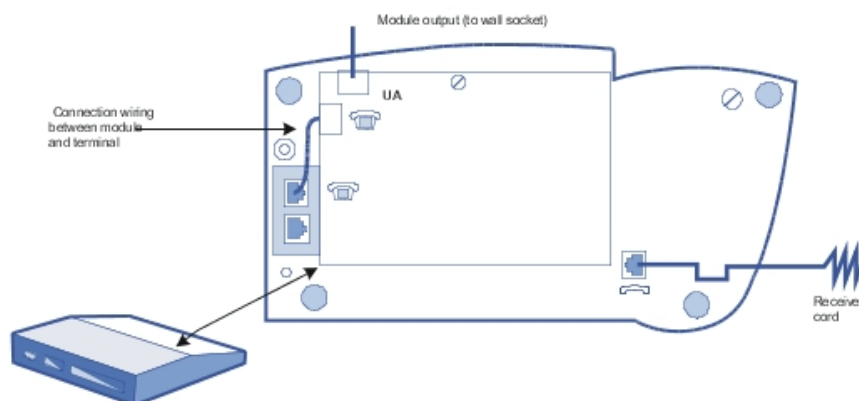
- Use the bracket as a drilling template; use the wallplugs and screws provided to attach the bracket.



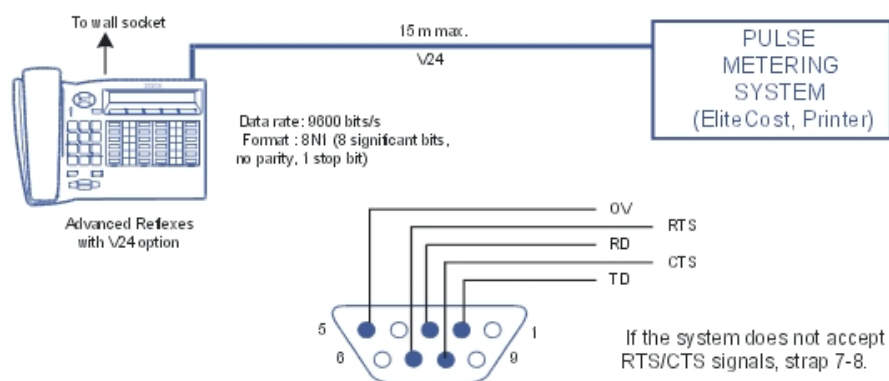
- Attach the terminal using the two lugs: introduce the lugs into the holes previously occupied by the feet (left foot and hole intended for this purpose for Advanced Reflexes terminals).
- Stabilize the mounting by clipping the foot into the base of the terminal.

#### 4.12.1.2.4 Mounting optional modules:

- Turn the terminal
- Remove the panel situated at the rear of the terminal.
- Slide the module into the terminal
- Connect the module to the terminal (connector ).
- Join the module to the terminal using the 2 screws provided in the kit
- Connect the module output (connector **UA**) to the terminal's wall socket.



Example of using optional modules: connecting a charge management system

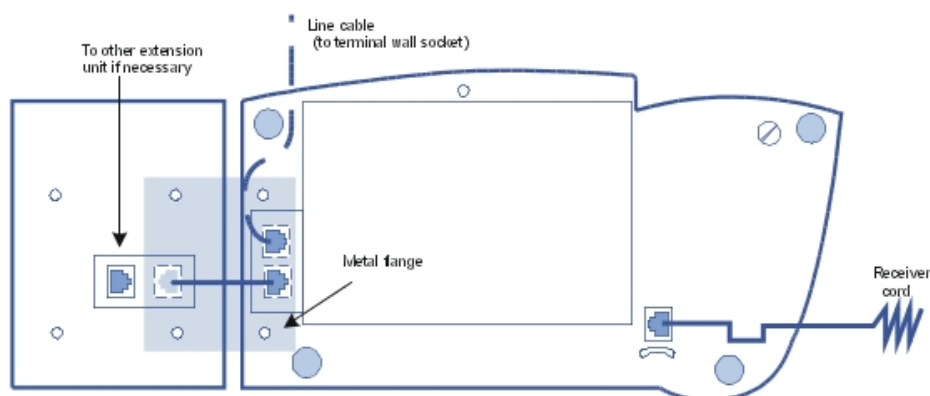


List of abbreviations

- |                            |                            |
|----------------------------|----------------------------|
| - TD: Transmit data        | - RD: Receive data         |
| - RTS: flow control output | - CTS: flow control output |


#### 4.12.1.2.5 Adding a Sector

- Turn the set and the module upside down
- Connect the unit to the terminal.
- Join the module to the set using the metallic strip and the 4 screws provided in the kit



#### 4.12.1.3 Alcatel-Lucent First AND Easy Reflexes TERMINALS

##### 4.12.1.3.1 Attaching the line cable:

- Turn the terminal
- Plug in the line cable (connector ) and position it as shown in the illustration.

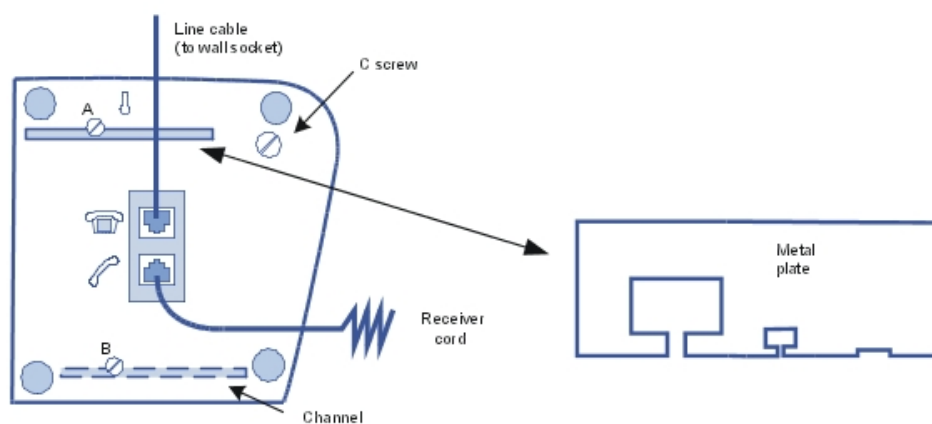
##### Attaching the handset cable:

- Turn the terminal
- Plug in the handset cable (connector ) into the guide intended for this purpose.

##### 4.12.1.3.2 Wall mounted

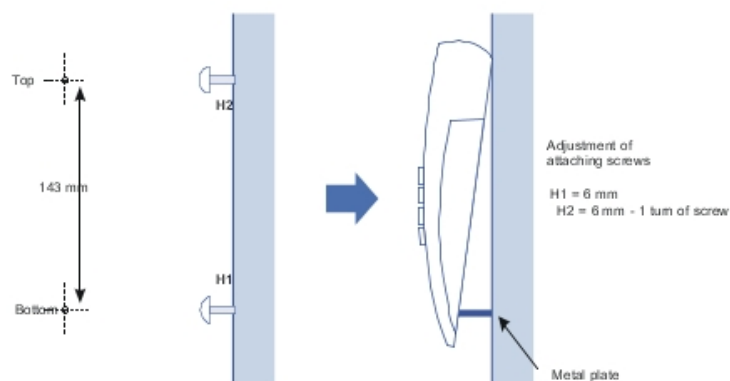
##### Preparing the terminal

- Turn the terminal
- Unscrew **A** and remove the metal plate.
- Slide this plate up the lower groove and secure it with screw **B**.
- Remove the handset hang-up lug by turning screw **C** through half a turn.



### Mounting the terminal

- Drill two hole respecting the dimensions given below.
- Position the supporting screws as shown below.
- Attach the terminal

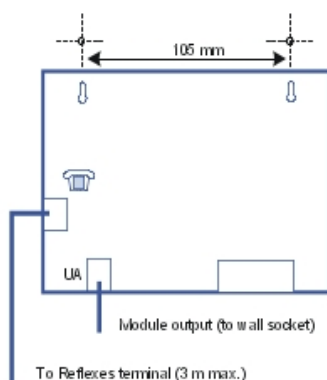


#### 4.12.1.3.3 Mounting optional modules:

For Alcatel-Lucent First and Easy Reflexes terminals, the optional module is external to the terminal; this module can be placed on a table or wall mounted. The installation simply involves connection between the terminal, the module and the wall sacket.

#### Wall mounting an optional module

- Drill two holes (separation = 105 mm, diameter = 6 mm).
- Position the fixing screws.
- Attach the module



## 4.13 Extending Your Installation

### 4.13.1 Detailed description

#### 4.13.1.1 Configuration of Stations

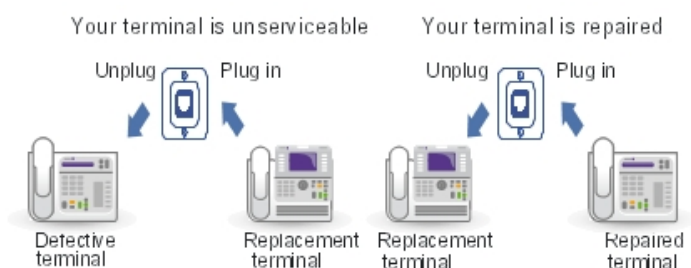
##### 4.13.1.1.1 Handset replacement

You can replace your digital terminal by connecting a terminal of the same family, but of a different type, into your phone socket. This substitution can be temporary or permanent.

Replacing an analog set by another analog set, or replacing a digital set by a set of the same type, requires no special procedure (simple hardware exchange).

#### Temporary substitution

The replacement set keeps its own default functions (customized settings are not transferred). The data not transferred is stored in the Alcatel-Lucent OmniPCX Office Communication Server system until a set of the same type as the initial one is connected.



#### Permanent replacement

The maximum quantity of data from the initial set is transferred to the replacement. Data not transferred are deleted.



### Characteristics preserved during temporary or permanent set substitution

- Rights (restricted features)
- Barring level
- Metering profile
- Messages and last caller repertories
- Destination set for metering reminder, forwarding and/or monitoring
- Set belonging to a hunting group and/or a Manager-Secretary relation
- Appointment reminder
- Locked or unlocked set
- Callbacks
- Active forwarding
- Last number redial

### Replacement of digital sets

Regardless of the type of the initial digital set and that of the replacement, the function and resource keys are not preserved. The directory numbers are preserved in accordance with the size of the directories of the stations concerned (for example, when replacing a Advanced Reflexes set with a Premium Reflexes set, only the first 10 numbers are preserved).



The add-on modules are always transferred provided the substitution set supports these modules.

*Note:*

*It is possible to replace a Reflexes set with an Alcatel-Lucent 9 series set. It is not possible to replace an Alcatel-Lucent 9 series set with a Reflexes set.*

#### 4.13.1.1.2 IP Touch set replacement

You can replace your IP Touch terminal by connecting a terminal of the same family only, into your phone socket. This substitution can be temporary or permanent.

##### Temporary substitution

The default configuration is not preserved when replacing temporarily an IP Touch set by another type of IP Touch set. The activation code and the replacement functions will be refused.

The data downloading process is automatically activated and the correct files are selected.

### Permanent replacement

The default configuration is not preserved when replacing permanently an IP Touch set by another type of IP Touch set. The activation code and the replacement functions will be refused.

The data downloading process is automatically activated and the correct files are selected.

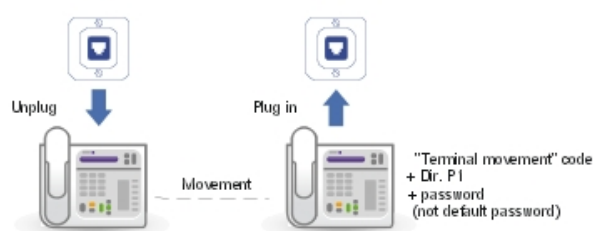
#### 4.13.1.1.3 Moving a handset

If you move office, you can move your set from one socket to another and still preserve all or part of its settings.

Before relocating the set:

- You need to change the personal code, which must be different from the default code.
- It is advisable to lock the set.

Relocating a set to an unused socket



#### 4.13.1.1.4 Adding sets

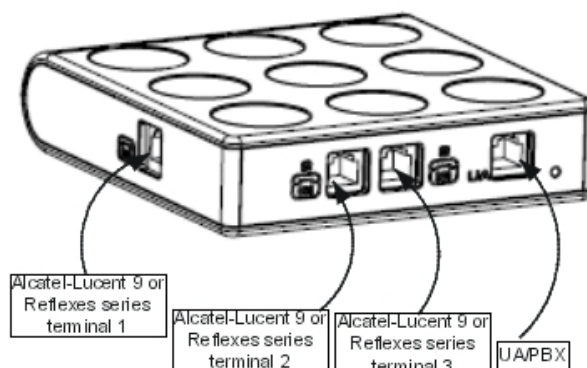
When adding sets, attention must be paid to the limits on the number of sets and the features offered by the system software key.



The set is recognized as soon as it has been plugged into the socket.

#### 4.13.1.1.5 Using a Multi Reflexes 4099 hub

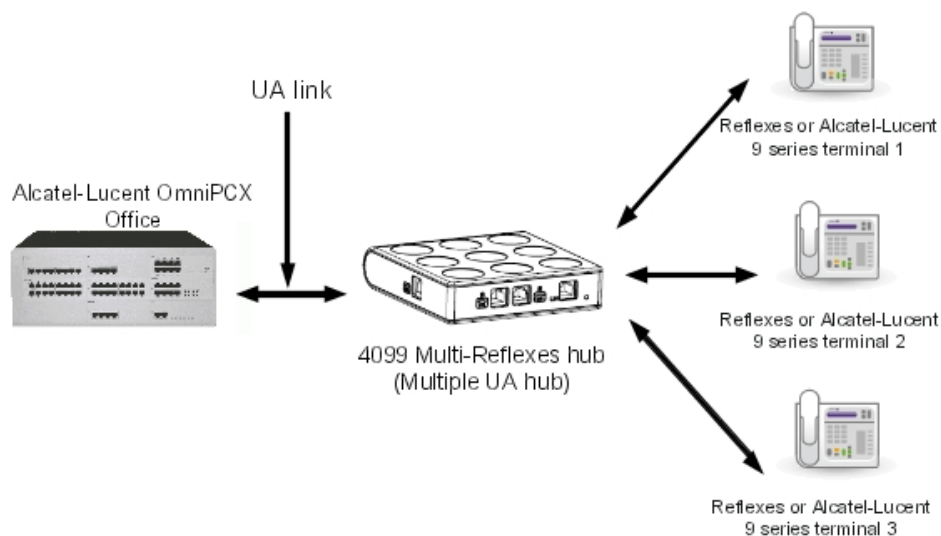
Multi Reflexes 4099 option (also called Multiple UA hub) connects up to 3 Alcatel-Lucent 9 series or Alcatel Reflexes terminals to an Alcatel-Lucent OmniPCX Office Communication Server using just one UA link. It simplifies the installation of additional Alcatel-Lucent 9 series or Alcatel Reflexes terminals.



This option does not allow the connection of DECT base stations, 4070 IO/EO, Alcatel-Lucent 9 series sets or Alcatel Reflexes sets with V24/CTI Interface Module, S0 Interface Module or AP Interface Module.

*Note:*

*IP Touch sets cannot be connected to a hub.*



### Interface classification

- UA link: TBTS
- Hub/Alcatel-Lucent 9 series or Alcatel Reflexes 1 to 3 : TBTS

### Maximum distances between Alcatel-Lucent OmniPCX Office Communication Server and sets

- 0,4 mm cable: 325 m



- 0,5 mm cable: 505 m
- 0.6 mm cable: 730 m

Cables of 3 m and 10 m are available for connecting the sets to the hub.

### 4.13.1.2 Adding/Replacing Boards



Except for PowerCPU, any board can be plugged/unplugged when the system is powered up.

To replace a PowerCPU board:

- Press the ON/OFF button, the **RED** led will flash.
- Wait for the LED to go to steady red (about 30 seconds): the system is turned off.

With OMC you can save and subsequently restore the configuration after replacing the PowerCPU board.

### 4.13.1.3 Connecting a Hard Disk

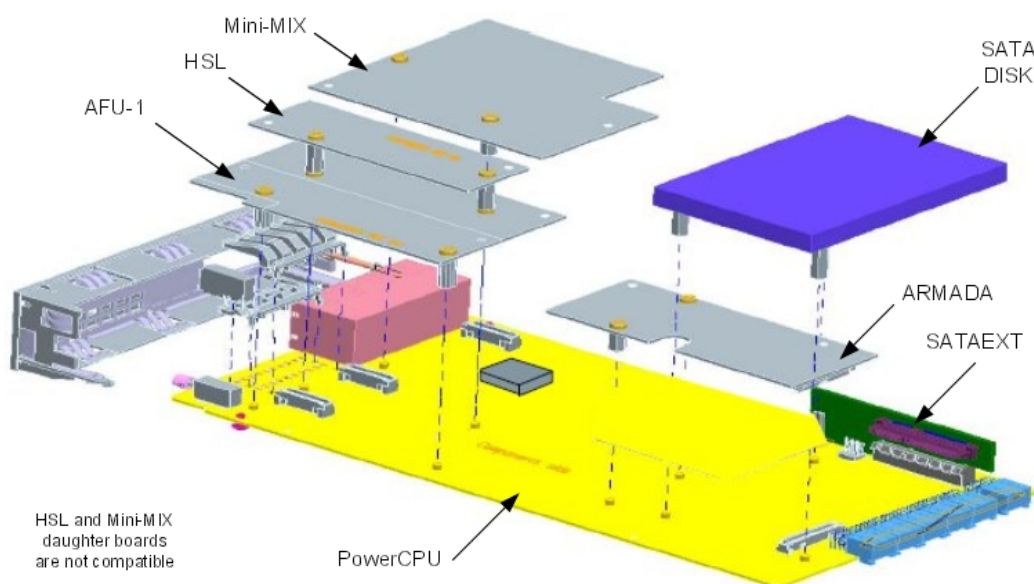


Figure 4.85: SATA Hard Disk Connection

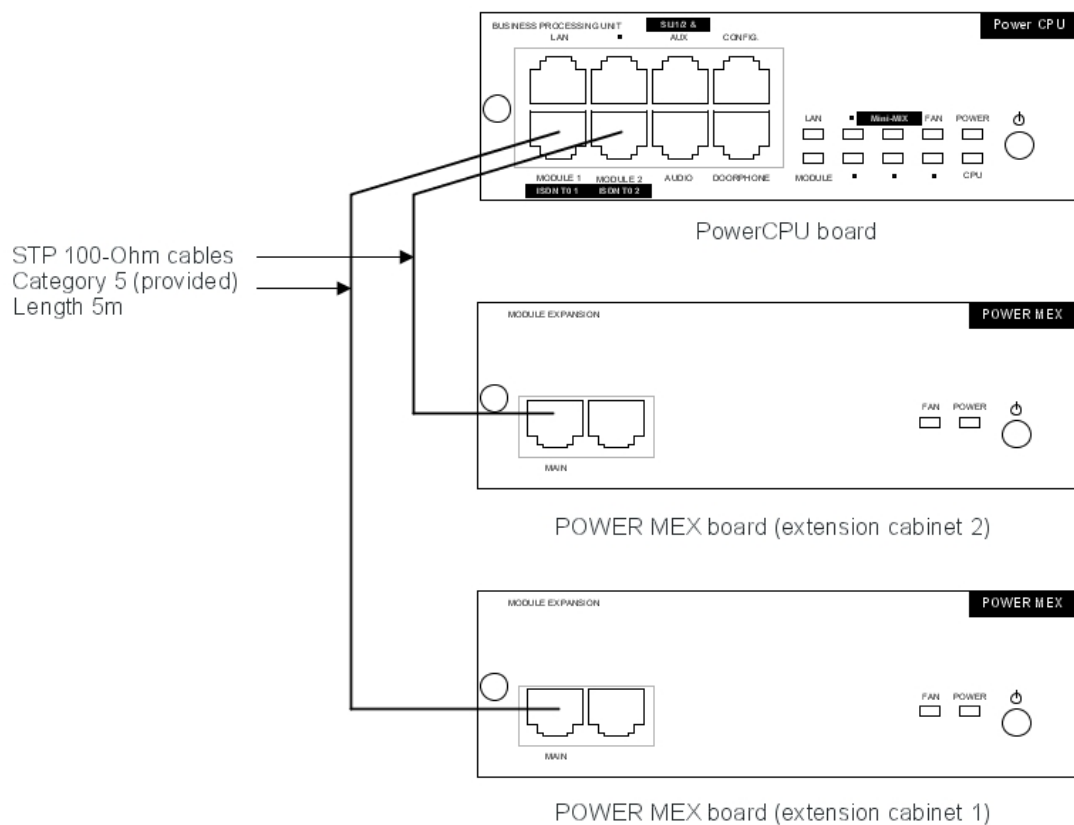


During installation, always take anti-static precautions (wristband, heelpiece, etc.) before handling the hard disk. **Any degradation caused by electrostatic discharges will reduce the life of the disk.** Handle the hard disk by its sides and do not touch the connector.

When going into stand-by mode, wait for the red Power LED to stop flashing before you remove the module's PowerCPU board. **Extracting the disk before the switch to standby is completed can destroy part of the disk or damage its contents.** Never handle the hard disk until the motor has stopped completely (about 4 seconds after the red Power LED stops flashing).

#### 4.13.1.4 Adding a Module Expansion

It is possible to add one or two modules to the basic module.



##### 4.13.1.4.1 Fitting a Module Expansion.

- The CPU slot of the module expansion must be fitted with a PowerMEX board with an HSL1 daughter board.
- Fit the PowerCPU board of the main module with an HSL daughter board.
- A module expansion may only include synchronous digital network interfaces (BRA, PRA) if this type of card is already incorporated into the main module (synchronization by the main module).
- The same rules apply to the other boards as those which applied to the base module.

##### 4.13.1.4.2 PowerMEX board.



RJ45 pin	1	2	3	4	5	6	7	8
MAIN:	TX+	TX-	RX+			RX-		

- MAIN: HSL to basic module.

### 4.13.1.4.3 Role of the # key

Name	Color	Feature
POWER	Red/Green	<ul style="list-style-type: none"> <li>- Mains operation: steady green led</li> <li>- Battery operation: steady yellow led</li> <li>- Standby: steady red LED</li> </ul>
FAN	Red/Green	<ul style="list-style-type: none"> <li>- Both fans functioning: steady green led</li> <li>- 1 or both fans down: steady red led</li> </ul>

### 4.13.1.4.4 Adding a third module

- Replace the HSL1 board of the PowerCPU board with an HSL2 board.
- Reuse this HSL1 board by placing it on the PowerMEX board of the third module.



In an installation using two modules, the PowerCPU (base module) and PowerMEX (module expansion) boards are fitted with an HSL1 board.

### 4.13.1.5 Installation Upgrade

This section outlines the major considerations to be taken into account when migrating to R8.x from:

- R3.x
- R4.x
- R5.x
- R6.x
- R7.x

Because of the hardware changes in R8.x, all the R8.x upgrade must be considered as an on-site procedure.

The following procedures are based on minimal hardware configurations. For other services, such as VoIP, enhanced VMU and ACD statistics, additional hardware is used and must be taken into consideration.

**Caution:**

*If the hardware platform is downgraded, data can be lost.*

*For example, the removal of a hard disk is not supported:*

- *If ACD statistics are available*
- *If more than 4 hours VMU support is available*

*Lola installation is required and all data can be lost.*

#### 4.13.1.5.1 Upgrading Phone sets

All phone sets not supported in releases lower than R8.0 must be installed after the successful migration to R8.x.

The phone sets not supported by earlier releases must not be plugged before migrating to a version that can support them.

#### 4.13.1.5.2 Migration

##### Prerequisites

To carry out an upgrade to R8.x, you need:

- A migration kit for the PowerCPU
- The correct version of R8.x with the R8.x software licenses
- LOLA R4.x
- Free disk space on the installer hard disk to contain all existing data

##### Migration to OmniPCX Office RCE Small, Medium, Large

The following sequence is used to migrate from an R3.x/R4.x/R5.x/R6.x/R7.x Alcatel-Lucent OmniPCX Office Premium Edition CS or Alcatel-Lucent OmniPCX Office Advanced Edition CS to R8.x OmniPCX Office RCE Small, Medium, Large.

1. Use the OMC, Release 8 to save configuration data.
2. In OMC off-line, adapt the saved database to R8.x hardware level (change CPU type, remove CoCPUs).
3. Use LOLA to save customer data from the current main CPU (select option **Migration mono CPU**).
4. Unplug the CPU and the unsupported boards from the system.
5. Change the existing hardware for R8.x hardware
6. Plug the PowerCPU.
7. Use LOLA to install the R8.x.
8. Use LOLA to restore the previously saved customer data.
9. Use OMC to restore the previously saved and modified configuration data.

##### Migration to R8.x OmniPCX Office RCE Compact

The following sequence is used to migrate to R8.x OmniPCX Office RCE Compact.

1. Use the OMC, Release 8 to save configuration data
2. In OMC off-line, adapt the saved database to R8.x hardware level (change CPU type,

remove CoCPUs).

3. Use LOLA to save customer data from the current main CPU (select option **Migration mono CPU**)
4. Unplug the CPU and the unsupported boards from the system.
5. Change the existing hardware for R8.x hardware
6. If the PowerCPU board is equipped with a hard disk, check the presence of a power supply module PSXS-N (reference: 3EH73072ACxx).
7. Plug the PowerCPU.
8. Use LOLA to install the R8.x.
9. Use LOLA to restore the previously saved customer data.
10. Use OMC to restore the previously saved and modified configuration data.

### Configuration

After the hardware upgrade and migration, use the OMC configuration procedures to configure the Alcatel-Lucent OmniPCX Office Communication Server .



**5.1 Detailed description****5.1.1 DEFAULT CONFIGURATION****5.1.1.1** *Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent IP Touch 4068 Phone and Alcatel-Lucent 4039 Digital Phone sets*

Each of these sets has 2 programmable keys (F1/F2) and 40 virtual add-on keys. Their default functions depend on:

- The configuration of the set (Operator, Manager, Assistant, Normal or Attendant)
- The market in which the set is sold (US or non-US)
- The operating mode of the set (KeySystem or PABX mode)

The default functions of the F1/F2 keys are summarized in the table below (they are the same for KeySystem and PABX modes).

table 5.1: F1/F2 Key Functions

Market	Set Configuration	Key F1	Key F2
Non-US	Operator	Normal/Restricted Mode	Operator Diversion
	Manager	Secretary	Screening
	Secretary	Manager	Screening
	Normal	Call	Call
US	Operator	Manual Hold	Transfer
	Manager	Manual Hold	Transfer
	Secretary	Manual Hold	Transfer
	Normal	Manual Hold	Transfer

The default functions of the virtual keys are summarized in the figures below (separate figures are provided for the US market). The virtual keys are selected using 8 physical buttons, 4 on each side of the set's display. There are 5 pages of virtual keys (the pages can be scrolled through using the up/down buttons of the set's 4-way navigator), with 8 virtual keys on each page. Each of the following figures shows the first page of virtual keys and then indicates the progression to the last (fifth) page of virtual keys.

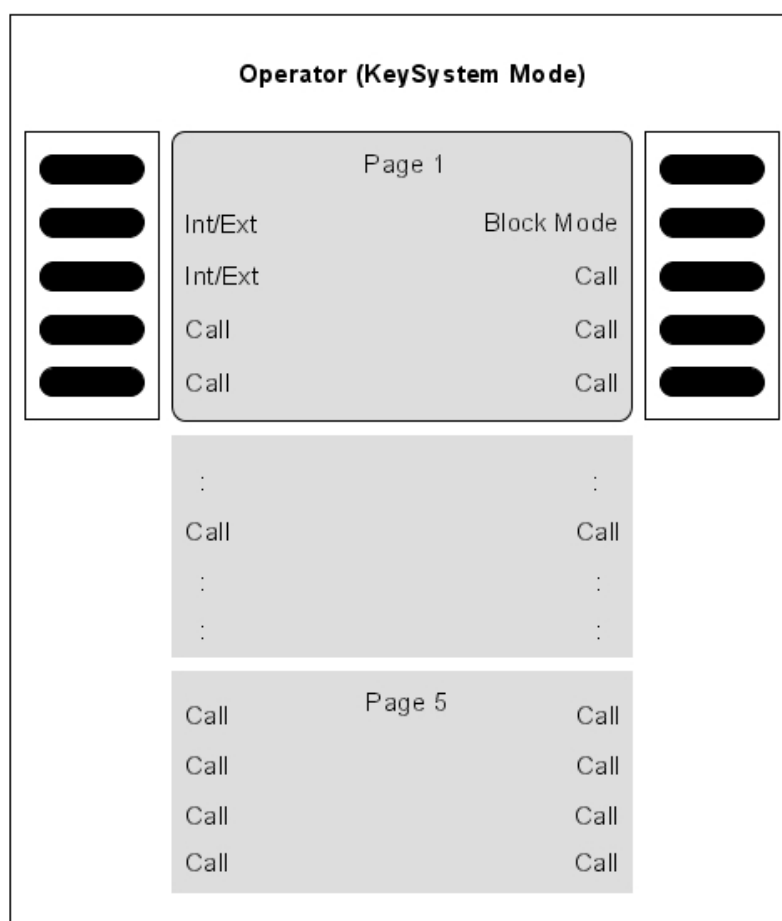


Figure 5.1: Virtual Key Functions for Operator Sets in KeySystem mode



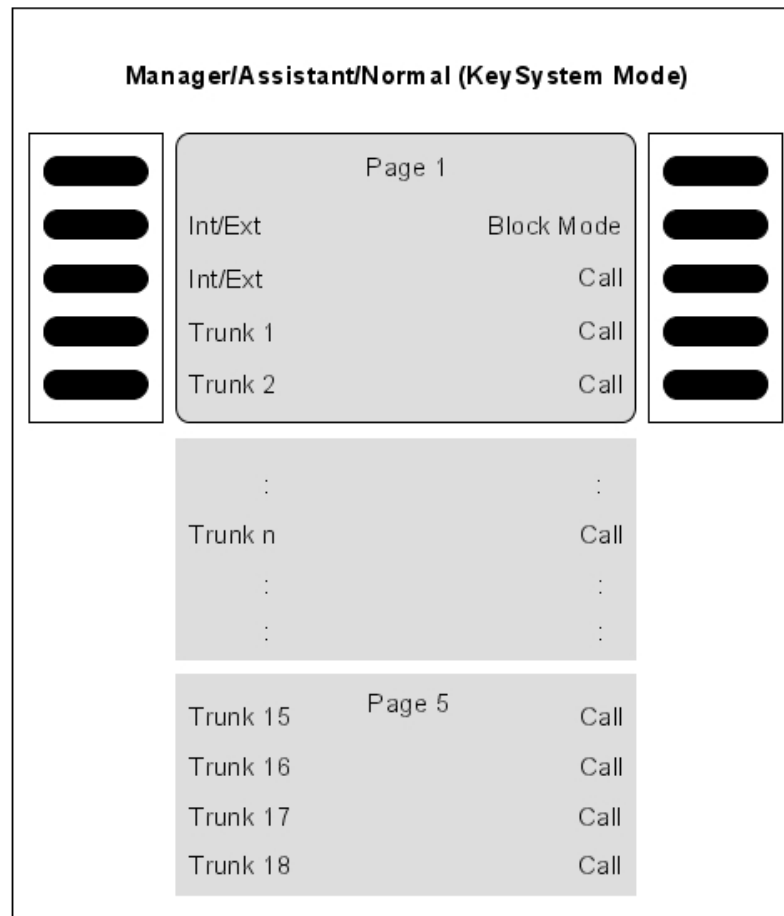


Figure 5.2: Virtual Key Functions for Manager/Assistant/Normal sets in KeySystem Mode

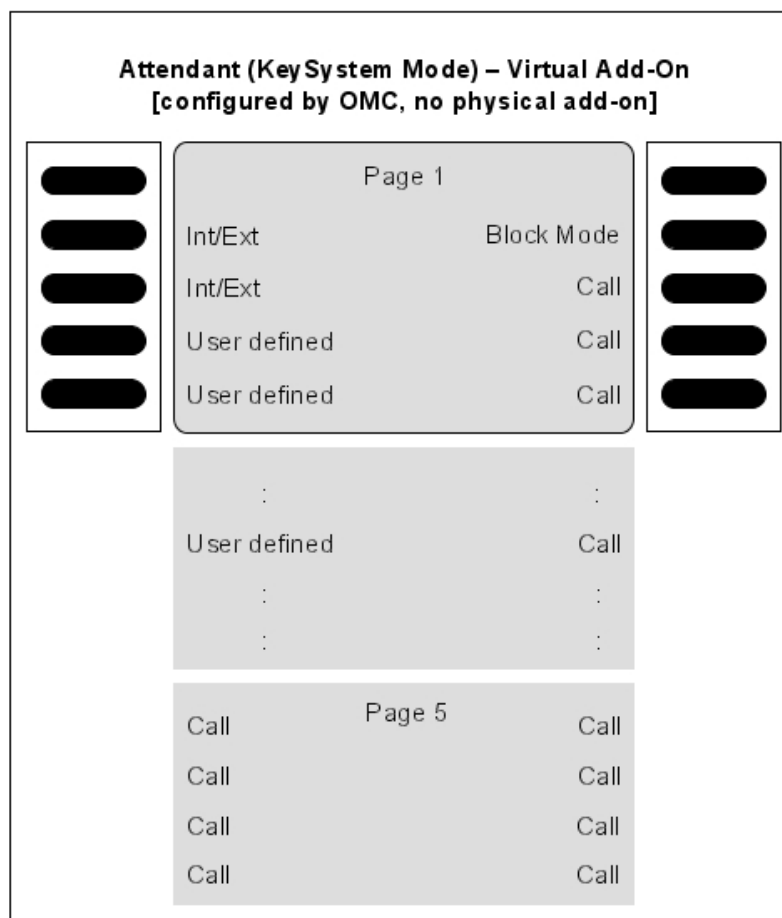


Figure 5.3: Virtual Key Functions for Attendant sets in KeySystem Mode (with no Physical Add-on)

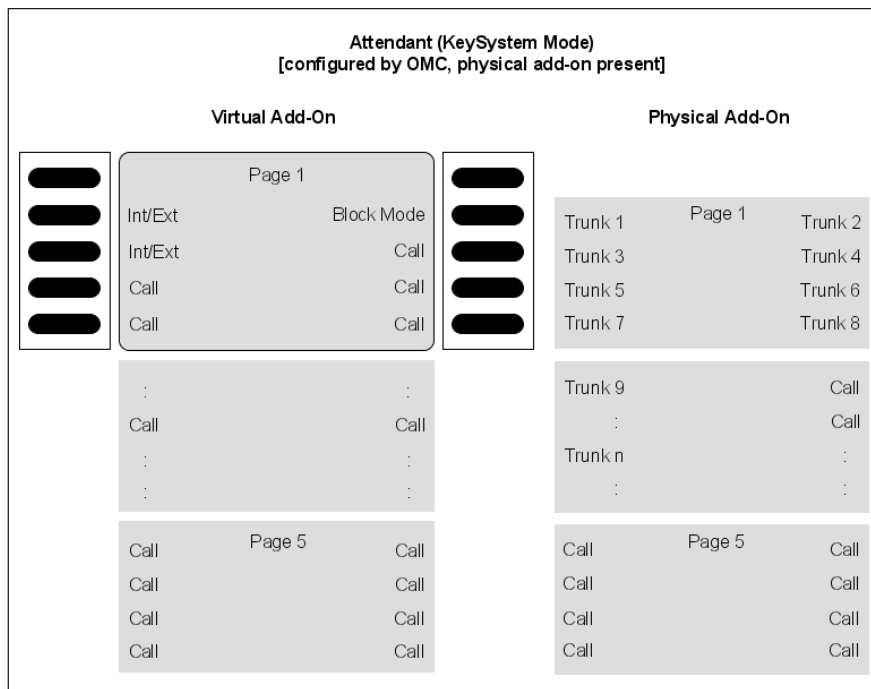


Figure 5.4: Virtual and Physical Add-on Key Functions for Attendant Sets in KeySystem mode

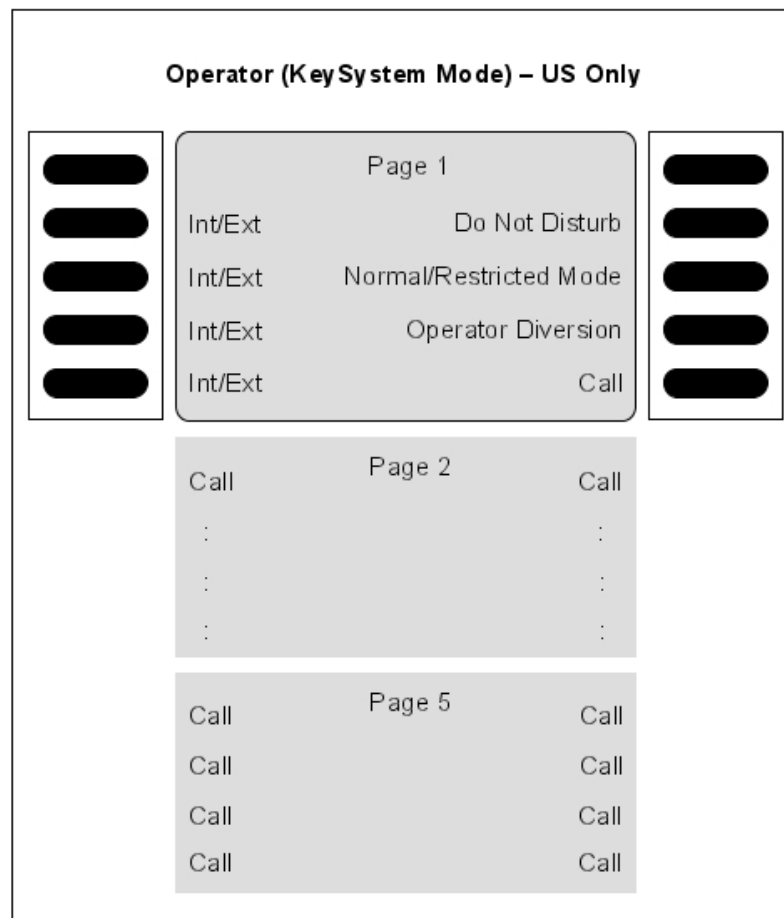


Figure 5.5: [US only] Virtual Key Functions for Operator Sets in KeySystem Mode

**Manager/Assistant (KeySystem Mode) – US Only**

[Key]	Page 1	[Key]
[Key]	Int/Ext                      Do Not Disturb	[Key]
[Key]	Int/Ext                      Assistant or Manager	[Key]
[Key]	Int/Ext                      Screening	[Key]
[Key]	Int/Ext                      Call	[Key]

Trunk 1	Page 2	Call
Trunk 2		:
:		:
:		:

Trunk 13	Page 5	Call
Trunk 14		Call
Trunk 15		Call
Trunk 16		Call

Figure 5.6: [US only] Virtual Key Functions for Manager/Assistant Sets in KeySystem Mode

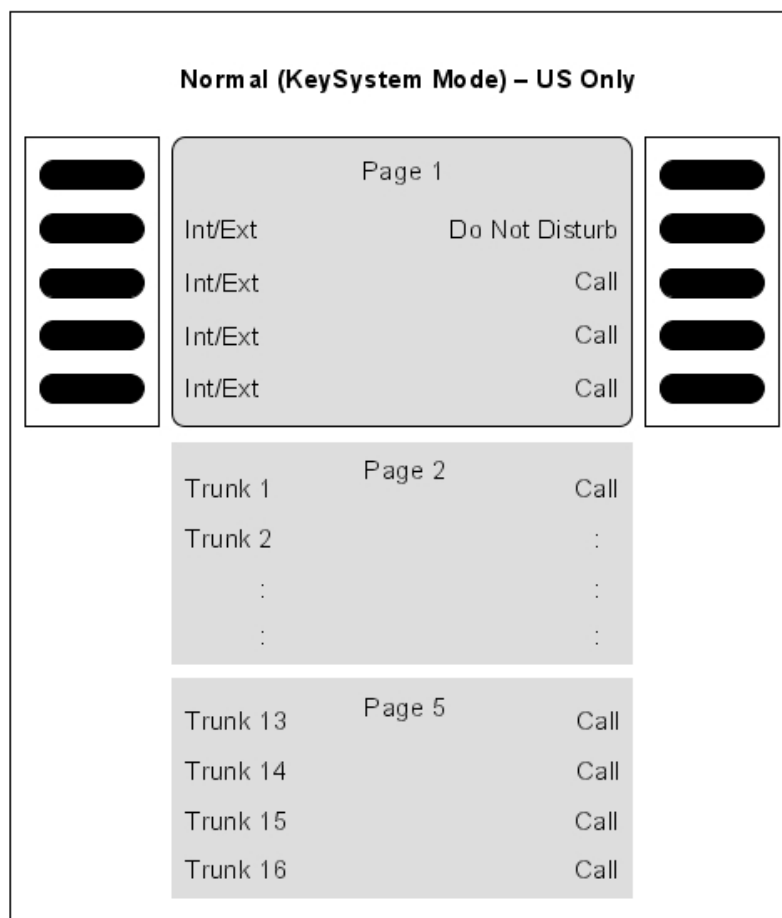


Figure 5.7: [US only] Virtual Key Functions for Normal Sets in KeySystem Mode

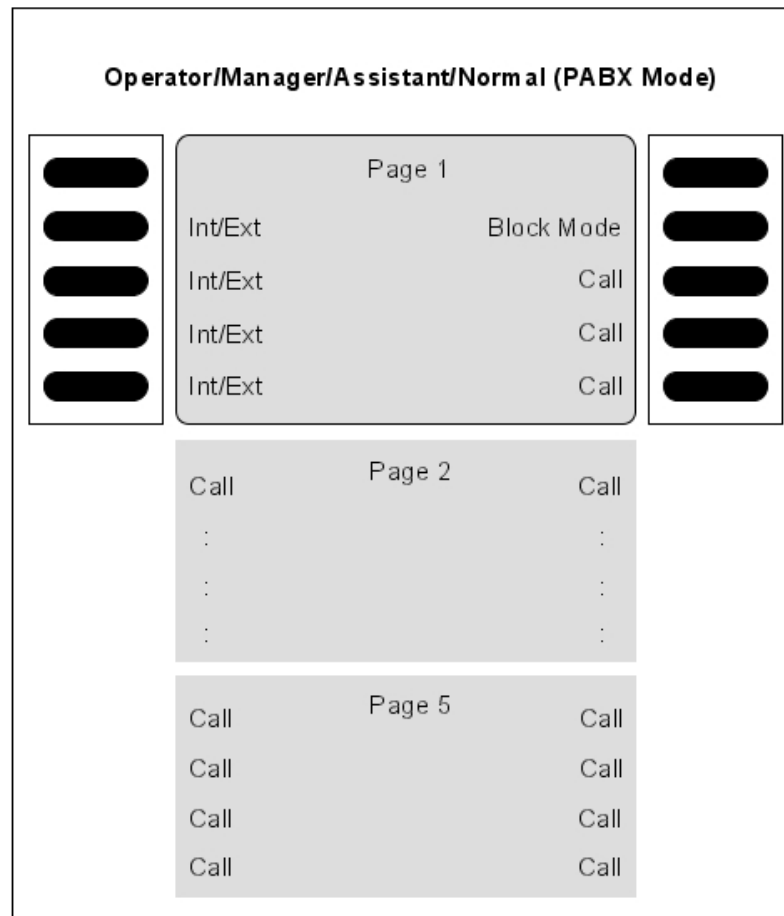


Figure 5.8: Virtual Key Functions for Operator/Manager/Assistant/Normal Sets in PABX Mode

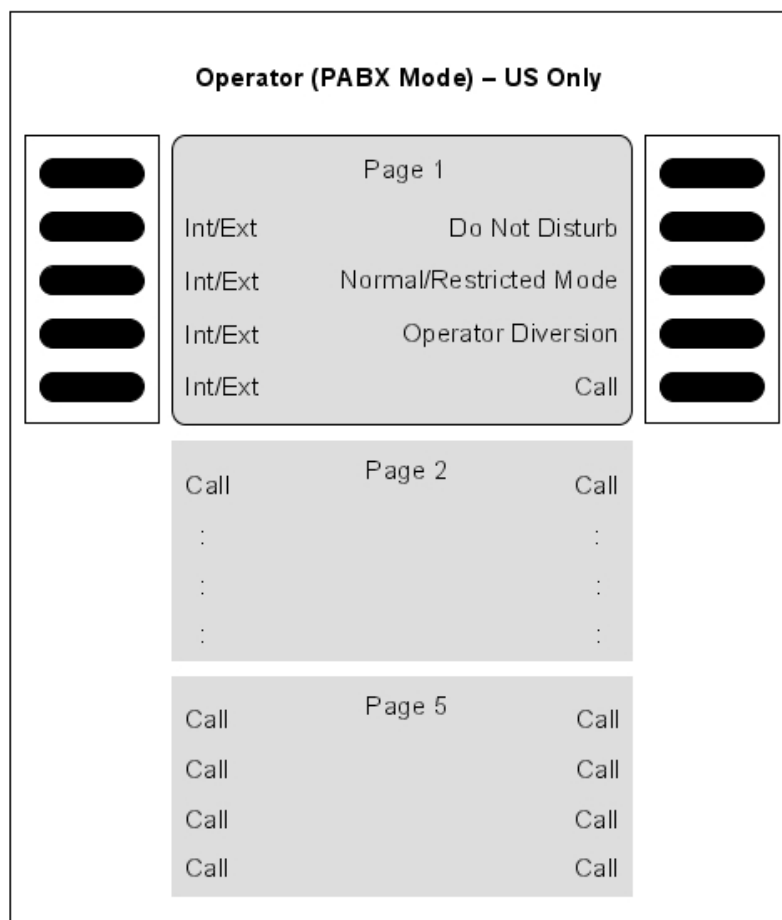


Figure 5.9: [US only] Virtual Key Functions for Operator Sets in PABX Mode



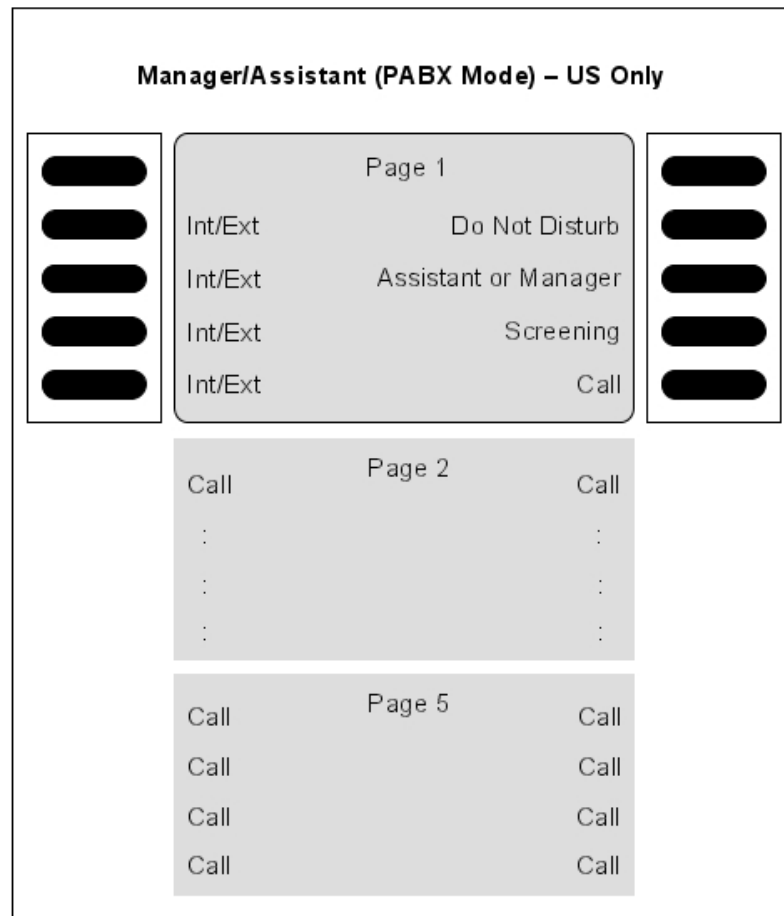


Figure 5.10: [US only] Virtual Key Functions for Manager/Assistant Sets in PABX Mode

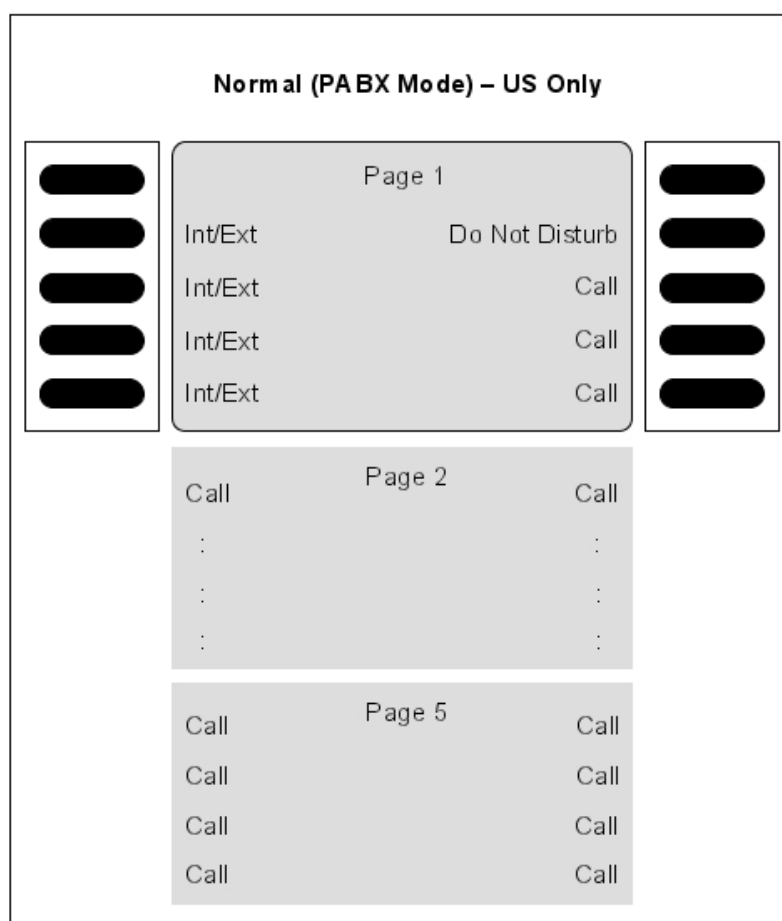


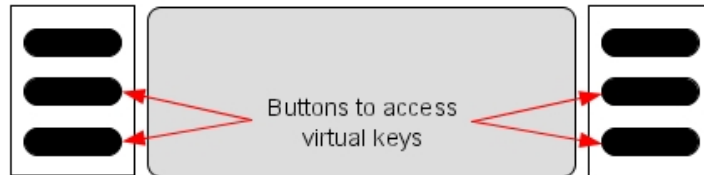
Figure 5.11: [US only] Virtual Key Functions for Normal Sets in PABX Mode

#### 5.1.1.2 Alcatel-Lucent IP Touch 4028 Phone and Alcatel-Lucent 4029 Digital Phone sets

Each of these sets has 2 programmable keys (F1/F2) and 40 virtual add-on keys. Their default functions depend on:

- The configuration of the set (Operator, Manager, Assistant, Normal or Attendant)
- The market in which the set is sold (US or non-US)
- The operating mode of the set (KeySystem or PABX mode)

The default functions of these keys are the same as for the sets detailed in [Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent IP Touch 4068 Phone and Alcatel-Lucent 4039 Digital Phone sets](#). However, in this case the virtual keys are selected using 4 physical buttons, 2 on each side of the set's display, as shown below.



There are 10 pages of virtual keys (the pages can be scrolled through using the up/down buttons of the set's 4-way navigator), with 4 virtual keys on each page.

#### 5.1.1.3 *Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent 4019 Digital Phone sets*

Each of these sets has 6 programmable keys which have the default functions indicated below.

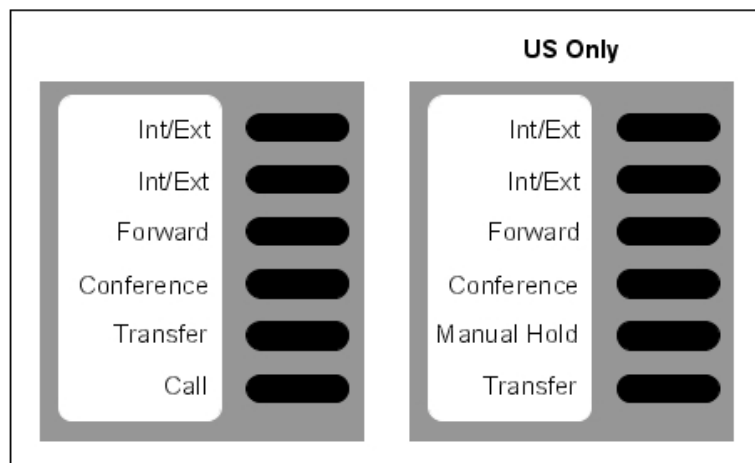


Figure 5.13: Key functions for Normal sets (in PABX mode)

#### 5.1.1.4 *Other predefined data*

- **Level 1 dynamic routing of stations:** any unanswered call is routed to the voice mail unit after 12 seconds.
- **Level 2 dynamic routing of stations:** only external call are routed to the operator group after 24 seconds.
- **OS calls overflow to general level** (default operator group) after 24 seconds
- **The default operator group** contains the first two integrated voice server ports, general ringer, remote XRA access and the first Alcatel Reflexes interface (Operator station)
- All the stations (except analog stations) are given a voice mailbox.
- The first analog interface is a Fax.



## 6.1 System Startup from a Phone Set

### 6.1.1 Configuration procedure

You can start-up the system using a phone set, provided this phone set is either an Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent 4039 Digital Phone, Alcatel-Lucent IP Touch 4068 Phone or an Advanced phone set.

The phone set used needs to be defined as the operator phone set, that is the first phone set connected to the system.








A start-up session is started automatically when the system is turned on for the first time. Follow this start-up session to enter the data required to operate the system.

The procedures below show the Alcatel-Lucent IP Touch 4068 Phone interface, but the menus are the same using the Alcatel-Lucent IP Touch 4038 Phone or Alcatel-Lucent 4039 Digital Phone interface and are similar using the Advanced interface.

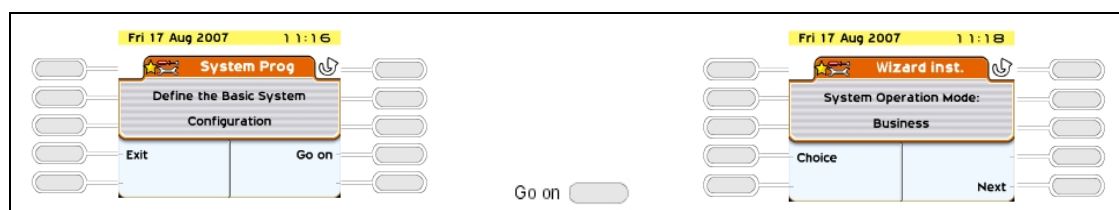
**In order to facilitate the first start-up, it is recommended that you have the following information available:**

- The number of your installation (international country prefix, national prefix, etc.).
- Basic metering unit value
- The ranges of numbers attributed by the network operator to the direct dial numbers (DDI) of the terminals in your installation.

#### 6.1.1.1 GENERAL DYNAMIC KEYS

	Previous	Return to the previous menu	Next 	Go to the next menu
		Delete the last character	Cancel 	Cancel
	Choice	Move between the various options from those offered	OK 	Validate an entry
		Scroll up, down, left or right on the display		

#### 6.1.1.1.1 First POWER-UP





To restart the session from the beginning during programming.



Attend ☐

To restart the session if you quit using the **Exit** function

### 6.1.1.2 SYSTEM TYPE

☐ Choice

: Used to define the system type: Business or Hotel

### 6.1.1.3 INSTALLATION NUMBER

**This number must be entered in its entirety.** The number of your installation can include a maximum of three fields for a total of 18 digits.


The fields must be separated by an asterisk.

Possible fields include:

- International country prefix (for example: 33 for France): obligatory field.
- National prefix: optional field (has no meaning in France).
- Public number of the installation: obligatory field.

### 6.1.1.4 NUMBERING PLAN



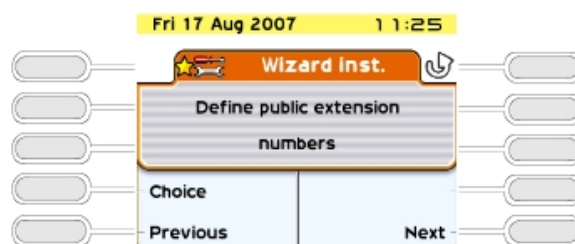
 Choice : Used to choose one of the pre-programmed numbering plans: (2 to 4 digits, national or with \*).




*Any modification of the numbering plan causes the deletion of any existing DDI numbers.*

#### 6.1.1.5 TERMINAL DDI NUMBERS

This function is used to define the DDI numbers (Direct Dialing Inwards) of all the terminals of a Business system and the Administrative terminals (dedicated terminals) of a Hotel system. **Only one DDI number can be attributed to each internal directory number.**



 Choice Access to the definition of terminal DDI numbers; displaying the first internal directory number/DDI number.



The direct number includes up to 8 digit and can be modified (the cursor is placed at the start of the field). The DDI numbers are generally the last 3 or 4 digits of your call numbers; the public operator will let you know the range of numbers that has been assigned to you.

<input type="button" value="Down"/>	<b>or</b>	<input type="button" value="Up"/>	Look through the list of internal directory numbers and validate the entry displayed.
<input type="button" value="Clear"/>			Delete the digits contained in the field <b>"Direct no."</b> (use the down arrow navigator key to display this option)
<input type="button" value="Cancel"/>			Reject the <b>complete</b> list of DDI numbers as defined and return to the start of the function.
<input type="button" value="OK All"/>			Validate the <b>complete</b> list of DDI numbers.

The following error messages can appear when entering the data:

- **"Number already used"** : the DDI number is already attributed to another internal number.
- **"The specified number is outside the assigned range"** : invalid DDI number (it contains a \* or # for example).
- **"Direct Dialing Table full"** : the maximum size of the table of public numbers (99 entries) has been exceeded.

The following function is only available for Hotel installations.



Access the definition of a pool of DDI numbers for hotel rooms; display the first DDI number.





10: Number of numbers still available in the DDI table after configuration of Direct Dial numbers.

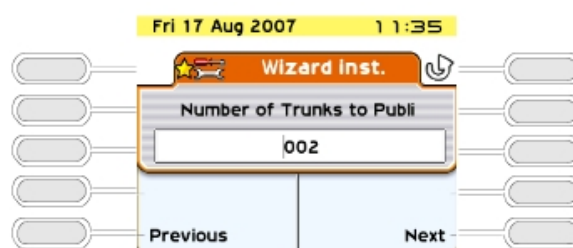
In a Hotel installation, all the Z terminals are used as hotel room terminals (except the first which is a fax and the second which is a public telephone).

A pool of DDI numbers means that these terminals can be assigned with a dynamic DDI number when a customer checks in.

The DDI numbers available depend on the number of numbers used by the administrative terminals (a total of 99 numbers (or ranges of numbers for direct numbers) are available in the table of public numbers for the system). The display shows the rank of the selected entry and the total number of entries available for the hotel rooms.

<input type="button" value="Down"/>	or	<input type="button" value="Up"/>	Look through the pool of DDI numbers and validate the entry displayed.
<input type="button" value="Clear"/>	Delete the digits contained in the field <b>"Public no."</b> (use the down arrow navigator key to display this option)		
<input type="button" value="Cancel"/>	Reject the <b>complete</b> list of DDI numbers as currently defined and return to the start of the function.		
<input type="button" value="OK All"/>	Validate the <b>complete</b> list of DDI numbers.		

#### 6.1.1.6 NUMBER OF LINES CONNECTED TO THE PUBLIC NETWORK



This function is used to indicate the number of lines or B channels connected to the public network (120 lines or 120 B channels maximum). These lines are then introduced into the main bundle (depending on the order that the boards are taken into account) and made available using the resource keys. On the operator terminal, T2 access can include up to 30 B channels; T1 access up to 23 B channels; T0 access up to 2 B channels. The message **"Value exceed number of lines connected"** is displayed when the value entered is greater than the number of B channels connected.

#### 6.1.1.7 OPERATION OF TERMINALS AND OPERATOR TERMINAL





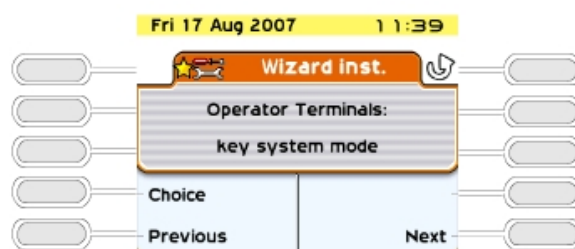
This function is only available for a business installation (in a Hotel only PCX mode is used).

☐ Choice

### "PCX Mode" and "Intercom Mode"

**PCX Mode:** all the lines are available using two RSB keys (= resource key specific to a bundle) .

**Intercom Mode:** the terminal has as many RSP keys (= resource key specific to an external access) as there are lines on the system. Refer to the "Default Configuration" section in this manual for a presentation of the function of the different keys for each type of terminal depending on the operating mode selected.



#### 6.1.1.8 ATTRIBUTING MAILBOXES



This function is used for assigning a voice mailbox to the installation terminals:

☐ Choice

: choice between UA terminals, All terminals, and No terminal.

#### 6.1.1.9 ARI NUMBER



This function is only available if your installation is fitted with DECT functions

The ARI (Access Right Identifier) number identifies the system uniquely to mobiles. It contains 11 octal digits (base 8). This number, assigned to an ETSI base by the installer, must be entered on installing the system.

The first digit cannot be modified and is always set to 1. The cursor is automatically placed on the second. The last digit is always either 0 or 4.

#### 6.1.1.10 AUTHENTICATION



This is used to make secure data transmission between the system and DECT mobiles by using an authentication code during registration

☐ Choice : choice between "off" and "on".


If the authentication mechanism is "on", the following screen is displayed.



Each access code can have a maximum of ten digits. This can be limited to the first four digits if there are DECT stations other than the 100/200 Mobiles.

#### 6.1.1.11 USER INFORMATION LANGUAGE



 Choice      Choice of language used on all the stations in the installation (display and spoken help)

#### 6.1.1.12 BASIC METERING UNIT COST



The value of the basic metering unit is introduced for calculating the cost of external calls. The cost (not the duration) and the changes in the charge meters during calls are displayed. The value entered can contain 5 figures (0-2 decimal places) in the chosen monetary unit. This service is dependent on the subscription made with the operator.

*Note:*

*Changing by duration required an external application.*

#### 6.1.1.13 TIME & DATE

**The current date and time must be entered.** Enter the date in the format DD/MM/YYYY.



Enter the time in the format HH:MM.



The message **"Date and time must be programmed"** is displayed when the "Date" and "Time" fields are empty or contain the default values.

### 6.1.1.14 SYSTEM RESET

This menu is used to confirm resetting the system.



System reset; the display shows **"System reset in progress"**

After the reset, your system will operate with the new parameters entered.

## 6.2 System Startup from OMC

### 6.2.1 Overview

OMC is the PC application used to program the Alcatel-Lucent OmniPCX Office Communication Server system via a **local** connection (V24 or LAN) or a **remote** connection (the PC modem is connected to the Alcatel-Lucent OmniPCX Office Communication Server integrated modem via the public network).

**Three levels of programming are available using OMC:**

- **Easy View** is used for **Wizard** configurations, i.e. the essential parameters for starting the system.
- **EasyPlus View** is used for **wizard**-type configurations with the extensions offered by the **Advanced** key. This key opens a window which is equivalent to Expert View.
- **Expert View** gives you unrestricted access to all the configuration possibilities.

The **Wizard** provides easy-to-use system programming, guiding the user step-by-step.

### 6.2.2 Installation procedure

#### 6.2.2.1 Minimal PC Configuration

- Pentium 4 processor (or higher for windows XP).
- RAM: 512 Mb
- Windows 2003 (32 bits with SP1 or SP2), Windows 2003 R2 (32 bits with SP2), Windows XP (32 bits with SP3 and framework.Net 2.0), Windows XP 64 bits or Windows Vista (32/64 bits with SP1), Window 7 (32/64 bits), Windows server 2008, Windows server 2008 R2.
- Hard disk: 300 MB (recommended for installation and operation)
- Screen: 800 x 600 pixels

- 1 mouse
- 1 serial port (connection to Alcatel-Lucent OmniPCX Office Communication Server for data transfer)
- 1 Ethernet board (IP mode only; not required when there is a V24 serial port connection to Alcatel-Lucent OmniPCX Office Communication Server)
- 64K (1 B-channel), or 128K (2 B-channels) PPP-compatible ISDN modem, or V34 modem for remote access

*Note:*

*Before installing OMC, the framework .NET must be installed.*

### 6.2.2.2 Installing the OMC Software

The OMC software is installed from a CD-ROM.

Install the application by choosing options in the various windows.

When installation is finished, you access the application either:

- by double-clicking on the new icon created on the Windows desktop, or
- by selecting **Start -> Program -> Alcatel-Lucent OmniPCX Office Communication Server -> OMC XXX yy.z**. The window **Welcome to OMC** appears.

## 6.2.3 Accessing the System

### 6.2.3.1 System Password

**Important:**

**System Password management policy**

*Basic rules have to be applied to the different passwords allowing an OMC connection to the system. It is recommended to change the default Installer password for OMC Expert, Administrator password for OMC EasyPlus and Operator password for OMC Easy.*

*Remember these passwords can also be used from the MMC-Station.*

*The following are the recommendations for good password management:*

- *Implement company policy to regularly update all system passwords*
- *Regularly change the passwords*
- *Avoid the use of simple passwords such as 12345678, 11111111, 00000000 etc...*
- *Never choose a word from everyday language. Attackers can use special dictionary cracking software to retrieve these*
- *Never choose a word that is closely related to you:*
  - *your company name*
  - *your name*
  - *your wife's maiden name*
  - *the name of your children or your pet,*
  - *your favourite hobby, etc...*
- *Choose a different password for each connection level*

- **Do not disclose passwords to other persons/colleagues**
- **Never write down your password. The first thing an attacker will do is rummage through your personal belongings.**

### 6.2.3.2 Local Access By LAN

The default IP address for the main CPU board is 192.168.92.246 for:

- A connection to the LAN port on the main CPU board via a UTP Category 5 5-100 ohm crossover cable.
- A connection to the switch to which the main CPU board is connected by a direct cable.

The PC IP address and network mask must be compatible with the address of Alcatel-Lucent OmniPCX Office Communication Server. For example 192.168.92.1 and 255.255.255.0.

For security reasons, the OmniPCX Office can be configured with an additional IP address, which is used only for management.

To configure a management IP address:

1. Navigate to **OMC: Hardware and Limits > LAN/IP Configuration**
2. Select the **LAN Configuration** tab
3. Validate the **Use Management IP Address** checkbox
4. Enter the **Management IP Address**
5. Validate
6. Perform a warm reset to take the new address into account

### 6.2.3.3 Local V24 Access For OMC

It is possible to use OMC software to dialog with OmniPCX Office using a V24 connection. In this case the network connection is not necessary.

A specific reinforced cable must link the "Config" RJ45 connector on the system CPU to the Com port of the PC using OMC.

#### Wiring of the connection cable

RJ45	SUB D 9-point (F)
1	7
2	4
3	3
4	NC
5	5
6	2
7	6
8	8

#### 6.2.3.3.1 Installation Procedure

1. Open the **OMC** software on the PC.
2. Select the **Expert** mode.
3. Select **Comm** from the menu toolbar.

4. Select **Connect** from the dropdown menu. The **Communication Path** window is displayed.
5. Select **Local V24**.
6. The system proposes installation of **Alcatel-Lucent OmniPCX Direct V24**. Click on **Yes**. The **Modem options** window is displayed.
7. Click **Add**. The **Installation** window is displayed.
8. In the **Installation** window, check **Don't detect my modem. Propose the option in a list** and click on **Next**.
9. Select the manufacturer.
10. Select **Alcatel-Lucent OmniPCX Direct V24** (for Windows XP/2003/2000).
11. Select the Com port used.
12. Click **Next**.
13. Click **Finish**.
14. Click **Close**.
15. Back in OMC, click **Comm**. The **Local V24** box is now enabled and the Com port is displayed.
16. Click **Ok** and enter the password. It will take a few seconds for the OMC to connect to the system.

#### 6.2.3.4 OMC Remote Access By Modem

With remote access, you can use OMC to configure or download an Alcatel-Lucent OmniPCX Office Communication Server system. This access can be managed using:

- an ISDN modem able to use ISDN PPP (point to point) protocol at 64K (1 B-channel) or 128K (2 B-channels)
- a V34 analog modem in Hayes protocol at 33600 bds

The management of these two modems is integrated into Alcatel-Lucent OmniPCX Office Communication Server.

**Important:**

***The OMC software must be installed on the remote maintenance PC, if Windows Terminal Server is not being used.***

##### 6.2.3.4.1 Remote Access By ISDN Modem

#### ISDN Modem Recommended

Alcatel-Lucent OmniPCX Office Communication Server is equipped with a 64K (1 B-channel)/128K (2 B-channels) ISDN modem using PPP protocol for remote access through the public network. It provides a point-to-point link accessible via standard LINUX procedures (PPP, etc.).

For a 64K (1 B-channel) connection, the following modems are validated:

- KORTX NOVAFAX ISDN 128000/33600 with PPP protocol
- FRITZ iX CAPI 2.0 or any standard "FRITZ" modem



- Multitech I Way Hopper MTA 128 ST 128 KBPS ISDN (see note below)

For a 128K (2 B-channels) connection, the following modems are validated:

- OLITEC USB ISDN 128K
- Multitech MTA128ST-RC ML-PPP (see note below)
- Eicon Diva 852 ISDN T/A USB - ISDN BRI ST - 128 Kbits/s

ISDN 64 to 128 KPBS modems handling the PPP protocol are generally compatible and support CHAP authentication.

*Note:*

*When using the Multitech modem, the authentication method must be set to CHAP. This is the default method for current firmware versions. For modems with older firmware, you must either update the firmware or activate CHAP with the AT command **AT S58=3**.*

## RAS Installation Process

In Windows 7/XP/Vista, you do not need to install new operating system components before configuring a new access method; the Remote Access Services (RAS) component is installed by default on these systems.

The sub-sections below describe how to set up the following remote access methods:

- Direct V24 Connection (OmniPCX Office Direct V24)
- Remote connection via ISDN modem (an example is provided for driver installation)

## V24 Driver Installation Procedure

1. Open the **Control panel**.
2. Select **Phone and Modem Options**.
3. Select the **Modems** tab.
4. Click **Add**.
5. Check **Don't detect my modem; I will select it from the list**.
6. Follow the Wizard instructions to install the modem. You will need to choose the COM port that will be associated with the modem.
7. You may need to reboot the PC to complete the installation.

## Installing the Driver for an ISDN Modem (example)

The following procedure describes how to install a FRITZ modem.

1. Insert the modem installation CD-ROM.
2. Click the **FRITZ iX PC Capi driver** installer icon. The wizard is displayed.
  - a. Indicate the serial port where the modem will be connected.
  - b. When the install process is complete, reboot the PC.
3. Insert the modem installation CD-ROM. The wizard is displayed.
  - a. Click the **FRITZ i32 Communication Software** installer icon.
  - b. Select **Install and configure**.
  - c. Use the default installation (click on **Next** in each Wizard screen).

- d. At the end of the Wizard mode, check the **Install Capi-port driver** box.
4. Select **AVM ISDN1 Internet (PPP over ISDN)**.
5. Reboot the PC.

#### Using Remote Access With OMC

1. Launch **OMC**. The OMC Welcome page is displayed.
2. Select the appropriate menu, as follows:
  - the **Expert** menu, if you are logging in as "installer"
  - the **EasyPlus** menu, if you are logging in as "administrator"
  - the **Easy** menu, if you are logging in as "operator" or "attendant"
3. In the toolbar menu, click **Comm**.
4. Select **Connect**. The **Communication Path** window is displayed.
5. Click **Modem direct**, then **OK**.
6. Click **Dialing** and select **AWM ISDN1 Internet (PPP over ISDN)**.
7. Dial the customer phone number and click **OK**.
8. Type in the appropriate password according to your user mode, as follows:
  - **Expert**: pbxk1064
  - **EasyPlus**: kilo1987
  - **Easy**: help1954

*Note:*

*The PC and B1 lights on the modem should light up when the connection is established.*

*The configuration session is open.*

#### Remote Access to the ISDN Modem

When an ISDN modem is used, it is necessary to reserve a DDI number in the public numbering plan to be able to establish remote access.

If no DDI number is available, check whether the system's ISDN modem access is in the default attendant group (default group). In this case it is not necessary to keep a DDI number.

*Remark:*

*If the modem is not currently in the attendant group, it is useful to set the Reroutdata flag to the value 01H. The system then automatically recognizes the ISDN service corresponding to the incoming call and looks in the default attendant group for a data terminal.*

#### 6.2.3.4.2 Remote Access By The Analog Modem

##### Analog Modem (recommended)

Alcatel-Lucent OmniPCX Office Communication Server is equipped with an analog modem V34 for remote access through the public network. This modem provides a point-to-point communication link accessible via standard LINUX protocols (PPP, etc.).

Its main characteristics are:

- V34 Modem

- Maximum transmission speed: 33600 bds
- Hayes protocol

In the current version of the system, the V34 "US Robotic" modem has been validated. The other types of modems were not validated.

### Installation Process of the Remote Access by Analog Modem

Follow the procedures described in the previous paragraphs, but replace the **FRITZ** modem with the **US Robotics** analog modem.

### Remote Access to the Analog Modem

When the analog modem is used, it is necessary to hold a DDI number in the public numbering plan in order to be able to carry out remote maintenance.

In the case of no DDI number is available, the access to the modem will be possible only via the operator transfer.

#### 6.2.3.4.3 Operating Mode

1. Open **OMC** on the remote access PC.
2. Select the **Expert** menu.
3. Click **Comm**.
4. Select **Connect**. The **Communication Path** window is displayed.
5. Click **Modem direct**, then **OK**.
6. There are two ways of establishing a remote connection:
  - Select a modem phone book entry in the **Used Entry** field of the **Modem Connection** window.
  - Click **Dialing**, select the modem to use ("used modem"), then dial the customer remote access number in the **Number** field.
7. Enter the system's default password **pbxk1064**. It will take a few seconds for the connection to be established.

#### 6.2.3.4.4 Security

In the remote access, the protocol used in the "data link" OSI layer is PPP (Point-to-Point Protocol). The TCP/IP protocols are used respectively in the "transport" and "network" layers. For each layer, Alcatel-Lucent OmniPCX Office Communication Server carries out an access control.

### Authentication

At the start of the connection (PPP), an account name (system masked) and password (pbxk1064) are required. This account name is automatically generated by OMC. The password is required by OMC to establish a direct connection (LAN) with Alcatel-Lucent OmniPCX Office Communication Server. Any other authentication will be rejected.

### Firewall

If the system accepts the authentication, the PPP connection will be established, and all the data packets received on this interface will be filtered according to the following rules:

All the packets are refused except:

- packets bound for Alcatel-Lucent OmniPCX Office Communication Server FTP server via two TCP ports preset for the PBX configuration by OMC.
- control packets using the ICMP protocol (Internet Control Message Protocol).

### 6.2.3.5 Access With Proxy

A proxy server can be added to improve security.

To connect a remote OmniPCX Office via a proxy server, the login dialog box can request a user account and password to connect to the proxy server.

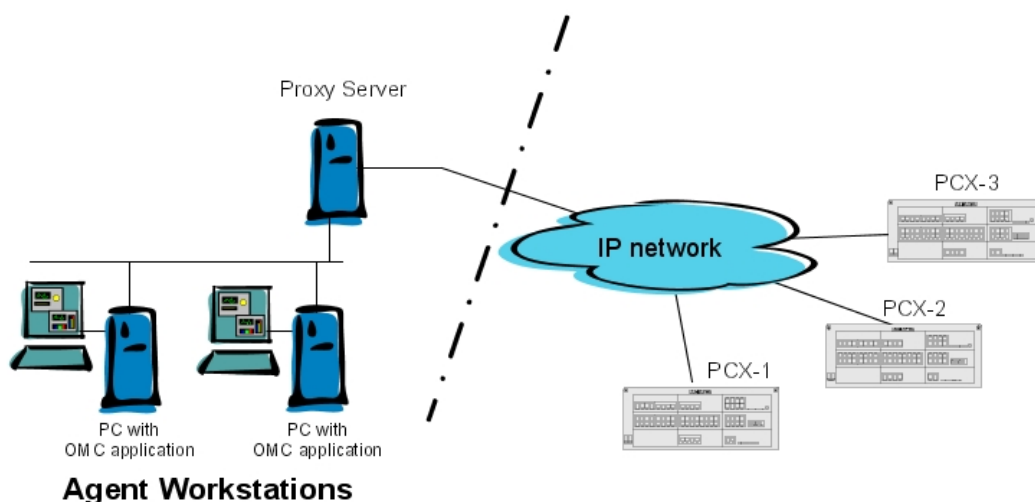


Figure 6.21: Configuration Example with a Proxy Server

To configure a proxy server:

1. In OMC, select **Options > Proxy Parameters** from the menu toolbar  
The **Privileged User Login** window opens
2. Enter the **Privileged User Password** and validate  
The **Proxy Parameters** window opens
3. Enter Proxy parameters:
  - **No Proxy Used:** when this radio button is selected, the proxy server is not used. In this case, all other fields are disabled
  - **Use Proxy Server:** when this radio button is selected, requests from and to OMC are sent via a proxy server
    - **Name/IP Address:** enter the name or IP address of the proxy server
    - **Port:** enter the port number used by the proxy server
    - **Do not use proxy for local address:** when this checkbox is validated, requests are not sent via the proxy server when destination addresses are in the same subnetwork
    - **User account in Proxy server:** enter the user account for the proxy server
    - **Password:** enter the associated password

If the proxy account and password are incorrect in the above parameters, each login dialog

box, to connect a remote OmniPCX Office, requests the proxy account and the associated password,

To modify the privileged user password:

- In OMC, select **Options > Change Privileged User Password** from the menu toolbar  
The **Change Privileged User Password** window opens.
- Enter the **Old Password** (after installation, the initial password is OMCAAdmin)
- Enter the **New Password**
- Confirm the **New Password**

*Note 1:*

*If you forget the privileged user password, the only solution is to uninstall and reinstall the OMC.*

*Note 2:*

*When OMC is launched from 4760 in online mode, the above mentioned configuration is not applicable.*

## 6.2.4 Downloading the Software

Alcatel-Lucent OmniPCX Office Communication Server is delivered either with:

- A final software including all the countries parameters (OmniPCX Office RCE Small, Medium, Large platforms delivered in BTCO mode) or
- A software tool (OmniPCX Office RCE Compact platform and OmniPCX Office RCE Small, Medium, Large platforms delivered in stock mode).  
This software tool is installed on the PowerCPU and must be updated with a further system software package (including the specific country parameters) also called country software, so that the installation is complete. The country software needs to be downloaded using OMC.

**Important:**

**System Password management policy**

*Basic rules have to be applied to the different passwords allowing an OMC connection to the system. It is recommended to change the default Installer password for OMC Expert, Administrator password for OMC EasyPlus and Operator password for OMC Easy.*

*Remember these passwords can also be used from the MMC-Station.*

*The following are the recommendations for good password management:*

- *Implement company policy to regularly update all system passwords*
- *Regularly change the passwords*
- *Avoid the use of simple passwords such as 12345678, 11111111, 00000000 etc...*
- *Never choose a word from everyday language. Attackers can use special dictionary cracking software to retrieve these*
- *Never choose a word that is closely related to you:*
  - *your company name*
  - *your name*
  - *your wife's maiden name*
  - *the name of your children or your pet,*
  - *your favourite hobby, etc...*

- *Choose a different password for each connection level*
- *Do not disclose passwords to other persons/colleagues*
- *Never write down your password. The first thing an attacker will do is rummage through your personal belongings.*

#### 6.2.4.1 Downloading software for Alcatel-Lucent OmniPCX Office Communication Server (OmniPCX Office RCE Small, Medium, Large platforms delivered in BTCO mode)

To download the software, proceed as follows:

1. Open OMC.
2. Open the **Tools** folder.
3. Open the **OMC-Software Download** application.
4. In the **Communication Mode** window, select the type of download:
  - Local
  - Modem Direct
  - Modem Call Back
  - LAN
5. Enter the password **pbxk1064**.
6. The **OMC-Software Download** window opens. This window has several areas:
  - A parameter setting area:
    - Select the directory containing the descriptor file for the new software release. By default this file is in the BOOT directory. Use the **Delivery file** browse button.
    - Select the country for the new software release. Use the **...Delivery** drop down menu in the **Country & Supplier...** area. As an indication, the **PBX** field gives the country of the currently used software release.
    - Download all the files (by checking the **Download all files** box) or just those whose **Action** field contains the value **Install**.
    - Save the data.  
If the **Data saving** box is checked, the system automatically saves and restores the data after having swapped over to the new software release.  
If the **Data saving** box is not checked, you must use OMC to save the data before starting the download. Restore this data after the download/swap is complete.
    - Download the files needed for the Voice over IP features.  
Depending on customer needs, check the **8082 My IC Phone** box and/or **4135 IP Conference Phone** box (the **Voice over IP services** box is automatically checked).
    - Select the language of the voice guides to download.  
Click on the **Languages** button to access the **Languages Download** window.
    - Define a time zone by selecting a city and country.  
Click on the **Time Zone** button to access the **Time Zones Download** window.
    - Define the software swap mode.  
In the **Software Exchange** area, there are two possible choices:  
Click on the **After OMC disconnect** button to swap immediately. The swap starts when you quit the downloading application.

Click on the **Date** button and indicate the required date and time for a delayed swap.

*Remark:*

*If you select immediate switching, it will take effect as soon as you quit the download application.*

- A read only zone
  - The **Downloadable Item** area allows you to see the different versions of the applications.
  - The **Action** column lists the files to download.
  - The bottom part of the window shows download progress. Each downloading and acknowledgement action produces a message.

7. Click **Start** to start downloading.

#### 6.2.4.2 *Downloading software for OmniPCX Office RCE Compact platform (and OmniPCX Office RCE Small, Medium, Large platforms delivered in stock mode)*

*Remark:*

*Because the OmniPCX Office RCE Compact platform does not use internal backup batteries like the other OmniPCX Office RCE Small, Medium, Large platforms, it is important not to cut off the cabinet's main power supply during software download. Any power shut down during the BIOS downloading will damage the PowerCPU.*

To download the software, proceed as follows:

1. From OMC, connect to the system.  
If it is the first connection to the system, a Warning window is automatically displayed.
2. Click on the **Download** button.
3. Enter the IP address and the password of the PC.  
The **OMC - Software download** window is displayed.
4. In the **Delivery file** field, select the path to access the system software installed on your PC.
5. Using the **...Delivery** drop-down menu in the **Country & Supplier...** area, select the country where the system will be installed.
6. Click **Start**.  
When download is complete, the message **Session successfully finished** is displayed.
7. Click **Exit** to quit the downloading tool. The system will swap on the new software version and will be available within a few minutes.

*Note:*

*When available, a new Uboot-loader (similar to the BIOS in previous releases) version in the OmniPCX Office RCE Compact software will not be automatically included in the list of items to be downloaded from the system. You must select and include the new Uboot-loader version manually.*

### 6.2.5 **Services provided**

OMC offers five operating modes:

1. Mode 1: **Data and tool repository**
2. Mode 2: **Typical installation**
3. Mode 3: **Typical modification**
4. Mode 4: **Expert**
5. Mode 5: **Multisite**

**Important:**

**Access to modes 2, 3, 4 and 5 is password protected: pbxk1064 (using the OMC tool)**

**Access to modes 2 and 3 is password protected: help1954 (using the OMC Easy tool)**

#### 6.2.5.1 Mode 1: Data and tool repository

This mode is used to create .crp files offline (collective customer directories) which are used in the **Typical Installation** menu.

#### 6.2.5.2 Mode 2: Typical installation

This mode is used for online manual programming by choosing between **Company** and **Hotel** and automatically on-line using .crp files.

**Remark:**

*The choice **Company/Hotel** is only offered once. It is necessary to perform a cold reset to see it again.*

#### 6.2.5.2.1 Initial Business Installation Wizard

- IP configuration
- Default Numbering Plan
- Installation number
- Operating mode
- Channels and Bundles
- DECT ARI
- Creation of DECT handsets
- Metering
- Date and time
- Terminal List
- Various Subscribers
- Collective speed dial
- OS groups
- Call groups
- Broadcast groups
- Intercept groups
- Screening

#### 6.2.5.2.2 Initial Hotel Installation Wizard



As well as the Business configuration, this wizard can be used to configure terminal numbers in the hotel rooms.

#### 6.2.5.2.3 Installation Wizard

This wizard enables you to use a .crp type file created under **Data and tool repository -> Information Repository Wizard**.

Follow the instructions; if the data is accepted it is transmitted to the system which is then reset.

#### 6.2.5.3 Mode 3: Typical modification

The 5 icons available in this mode (Terminals, Groups, System, Collective Directory and External Lines) are used to gain access to the wizards used to modify or configure simply various parameters as detailed below.

The data will be taken into account by the system after clicking **OK**.

##### 6.2.5.3.1 Subscribers

- List of subscribers: public number, name, discrimination level, accessible network line groups.
- Dividing calls between normal mode and restricted mode.
- **EasyPlus View**: detailed parameters for each subscriber: keys, languages, authorized usage, personal code, callbacks, dynamic forwarding, personal directory, etc.

##### 6.2.5.3.2 Groups

- **OS Groups**
  - Making groups: introducing members into each group
  - Assigning a welcome message to each group
- **Call Groups**
  - Name and type (parallel, cyclical or sequential)
  - Making groups: introducing members into each group
  - Assigning a welcome message to each group
- **BTS Clusters**
  - Name of each group
  - Making groups: introducing members into each group
- **Call pick-up groups**  
Making groups: introducing members into each group

##### 6.2.5.3.3 Collective Speed Dial

The name and destination number of the call for each entry.

##### 6.2.5.3.4 System

- **Default numbering plans**
  - Choose between national numbering plans or a 2, 3 or 4-digit star plan.
  - **EasyPlus View**: Normal service public numbering plan
  - **EasyPlus View**: Restricted service public numbering plan

- **EasyPlus View:** Order codes
- **EasyPlus View:** Internal numbering plan
- **Installation numbers**
  - International code
  - National code
  - Installation number
  - **EasyPlus View:** Call back prefix
  - **EasyPlus View:** Customized caller number
  - **EasyPlus View:** Private installation number
- **Metering**
  - Cost of telephone metering
  - **EasyPlus View:** Hotel metering cost for current currency unit (VAT, prepayment amount, etc.)
  - **EasyPlus View:** Metering options for current monetary unit
  - **EasyPlus View:** Print parameters
  - **EasyPlus View:** Metering options for replacement currency (Euro)
- **Date and time**
- **Software keys**
  - System Key
  - CTI Key

#### 6.2.5.3.5 External Lines

- B-Channel number
- External number for incoming calls (DISA)
- Type of dialling

#### 6.2.5.4 Mode 4: Expert

This mode cannot be accessed from OMCEasy.

This mode allows all modification and system maintenance. The wizards available in modes 2 and 3 are also accessible.

#### 6.2.5.5 Mode 5: Multisite

This new mode is available with Easy, EasyPlus and Expert Views. It allows you to manage several Alcatel-Lucent OmniPCX Office Communication Server systems.

The Multisite feature includes the following basic services:

- An Installation Wizard to help installers and administrators to set up appropriate configurations when adding PBXs to a network.
- The automatic replication of data common to all networked PBXs. Common data is pushed from a reference PBX to all other secondary PBXs in the network.
- The automatic synchronization of Phonebook names and phone numbers.

*Note:*

*The OMC Multisite feature is designed for setting up PBX networks from scratch. Large parts of the PBX*

*settings are overwritten when configured PBXs are added to a network.*



## 7.1 Maintenance Level 1

### 7.1.1 Maintenance

This module provides maintenance advice on different hardware components of the Alcatel-Lucent OmniPCX Office Communication Server system.

#### 7.1.1.1 Battery Maintenance

Alcatel-Lucent OmniPCX Office Communication Server systems (except the OmniPCX Office RCE Compact) are supplied with internal batteries that provide back-up power in the event of a mains power failure. Alternatively, all systems may be optionally equipped with an external battery pack to provide back-up power.

To guarantee system shutdown without data loss in the event of a mains power failure or if the mains plug is unplugged from the wall socket, **replace the batteries every two years**. This maintenance operation is vital to guarantee sufficient power autonomy to allow the files to be saved before the system shuts down.

Before replacing batteries, the system must be powered down and the power cable removed from the mains supply.

- To replace internal batteries, the rear panel of the system cabinet must be removed and the battery drawer pulled out.
- To replace external batteries, the external battery box must be opened.



**To maintain a good balance, replace all the batteries at the same time with batteries of the same type, from the same manufacturer and from the same batch.**



**Make sure you respect the correct polarities when replacing batteries. There is a risk of explosion if the batteries are incorrectly replaced. Used batteries must be disposed of according to the battery manufacturer's instructions.**

The batteries are supplied uncharged. File saving in the event of a power failure can only be guaranteed once the batteries have been charged; that is, about 12 hours after turning on the system (PowerCPU switch in ON position).

#### 7.1.1.1.1 Internal Battery Characteristics

- number: 1 (OmniPCX Office RCE Small), 2 in parallel (OmniPCX Office RCE Medium) or 3 in series (OmniPCX Office RCE Large)
- sealed lead battery
- 1,2 Ah / 12 V
- fire resistance better than or equal to UL94-V2

#### 7.1.1.1.2 External Battery Characteristics

- number: up to 2 for OmniPCX Office RCE Compact, up to 3 for OmniPCX Office RCE Small and OmniPCX Office RCE Medium platforms, up to 6 for OmniPCX Office RCE

Large platforms

- sealed lead battery
- 7 Ah / 12 V
- fire resistance better than or equal to UL94-V2

#### 7.1.1.2 *Board Battery Maintenance*

It is recommended that the batteries in the PowerCPU boards should be replaced by batteries of the same type every two years. Dead batteries must be disposed of according to the battery manufacturer's instructions.

#### 7.1.1.3 *Maintenance of Ventilation System*

At the same time as replacing the batteries, clean the system ventilation holes using a brush or a lint-free cloth.

When a fan fails, only the T0/T2 external digital accesses and the first two interfaces of the digital stations remain operational.

#### 7.1.1.4 *Replacing the PowerCPU Board*

It is necessary to adapt the software key after replacing the PowerCPU board.

1. **The new PowerCPU board has no software key:**

- You know the new software key corresponding to the new PowerCPU:
  - Reboot the system with the new PowerCPU: the system operates with default functionality
  - Load the new key using OMC; Procedure with MMC Station
  - Do a cold reset: the system operates with the possibilities offered by the new key
  - Restore the configuration (not the old key)
- You do not know the new key corresponding to the new PowerCPU: use the old key until you can enter the new one (you have 30 days). The remaining actions are identical to those shown in the previous section

2. **The new PowerCPU software key corresponds to the serial number:**

- The new key offers the desired level of service:
  - Reboot the system with the new PowerCPU: the system operates with the desired level of service
  - Restore the configuration (not the old key)
- The new key does not offer the desired level of service: change the key

3. **The new PowerCPU board software key does not match the serial number:**

One is in the same situation as case 1, except that the system boots with the level of service offered by the key on the PowerCPU, with temporary validity.

#### 7.1.1.5 *Adding and Replacing Interface Boards*

This section describes how to add an interface board into a vacant slot in the system and how to replace an existing board with a new one.

*Note:*

***Always take anti-static precautions when handling boards. Before coming into direct physical contact with a board, make sure you touch a grounded metal surface to remove static charge***

**from your body. When holding a board, always wear a grounding device such as a grounded wrist strap, and do not touch board components that are sensitive to static charge.**

Before attempting board installation/exchange, note the following system rules concerning the detection of boards:

- A detected board is considered to be PRESENT
- A PRESENT board can be ACCEPTED or REFUSED, depending on the system dimensioning criteria
- On a cold reset, all PRESENT boards are taken into account (irrespective of whether they are ACCEPTED or REFUSED)
- A board which is PRESENT on a cold reset can later be determined as ABSENT on a warm reset if in the meantime the board has been unplugged or there has been a board detection failure
- After a cold or warm reset, new boards are always taken into account and declared as PRESENT (and then ACCEPTED or REFUSED)

The following table describes situations more specifically relevant to plugging/unplugging boards.

Situation	Description
A board is plugged into a slot never before occupied	The board is detected as PRESENT and then determined to be ACCEPTED or REFUSED (according to configuration criteria, such as authorized positions and maximum hardware capacity). If the board is accepted, its accesses are taken into account depending on the system dimensioning criteria.
A board is replaced with another board of the same type	
A board is replaced with another board of a different type	As above, except when the replacement board is plugged in, configuration data for the previous board is cleared.
A PRESENT and ACCEPTED board is unplugged	The board's disappearance is detected and the board is considered as out of order and then ABSENT. However, configuration data associated with the unplugged board remains available.
A PRESENT and REFUSED board is unplugged	The board's disappearance is detected and the board is considered as ABSENT. However, configuration data associated with the unplugged board remains available.

#### 7.1.1.5.1 Adding a board into a vacant slot

The procedure presented below assumes that a board is to be installed in a vacant slot in the system cabinet.

*Note 1:*

**Hot installation is forbidden in OmniPCX Office RCE Compact platforms. It is also forbidden for PowerCPU boards in all platforms.**

1. If a hot installation is not possible, stop the system and disconnect it from the mains power supply.

2. Locate the required vacant slot in the cabinet and remove the metal plate for this slot.
3. Taking anti-static precautions (for example, by wearing a grounded wrist strap), pick up the new board and plug it into the vacant slot.
4. Secure the end-plate of the board to the cabinet with the screw provided.
5. If you have stopped and powered down the system, reconnect it to the mains power supply and restart it.
6. Perform any configuration and/or tests required for the new board.

*Note 2:*

*Following configuration in the OMC tool, you may be required to perform a warm reset of the system for the configuration changes to take effect. In this case, the software will prompt you to perform the warm reset.*

#### 7.1.1.5.2 Replacing an existing board

The procedure presented below assumes that an existing board is to be removed from the system and a replacement board (of the same or different type) is to be installed in the same slot in the system cabinet.

*Note 1:*

**Hot swap is forbidden in OmniPCX Office RCE Compact. It is also forbidden for PowerCPU boards in all systems.**

1. If a hot swap is not possible, stop the system and disconnect it from the mains power supply.
2. Locate the existing board to be removed in the cabinet and unscrew the securing screw from its end-plate.
3. Taking anti-static precautions (for example, by wearing a grounded wrist strap), pull the board out of its slot.
4. Taking anti-static precautions, pick up the replacement board and plug it into the now vacant slot.
5. Secure the end-plate of the board to the cabinet with the screw provided.
6. If you have stopped and powered down the system, reconnect it to the mains power supply and restart it.
7. Perform any configuration and/or tests required for the replacement board.

*Note 2:*

*Following configuration in the OMC tool, you may be required to perform a warm reset of the system for the configuration changes to take effect. In this case, the software will prompt you to perform the warm reset.*

#### 7.1.1.6 Hard Disk Maintenance

**Please comply with the recommendations given below; any mistreatment of the hard disk (handling, transport, storage) can result in a shortened life and possible malfunctioning of your installation.**

##### 7.1.1.6.1 Handling



- Always wear a discharge device (bracelet, heel clip, etc.) to protect against electrostatic discharges.
- Avoid any knocks to the hard disk
- Do not touch the connector
- Handle the disk by holding it by the sides

#### **7.1.1.6.2 Storage**

- All hard disks must be stored in an electrostatic protective bag
- Avoid contact between hard disks
- Do not pile them up (even when packed)

#### **7.1.1.6.3 Transport.**

- A hard disk can only be transported when packed in an electrostatic protective bag
- Avoid contact between hard disks
- Use standard packaging suited to transporting hard disks



## **8.1 Glossary**

### **8.1.1 A**

#### **ACD**

Automatic Call Distribution. A computerized phone system that responds to the caller with a voice menu, and connects the call to the required agent. It can also control call flows by automatically routing calls in the order of arrival.

#### **ACSE**

Association Control Service Element. OSI convention used for establishing, maintaining and releasing connections between two applications.

#### **ADN**

Additional Designation Number.

#### **AFU-1**

Auxiliary Function Unit. Daughter board of the PowerCPU board supporting ancillary functions such as general bell, doorphone, audio in, audio out, etc.

#### **AMIX-1**

Mixed analog equipment board: analog accesses with CLIP functionalities, analog and digital terminal connection interfaces.

#### **AP**

Access Point. A device that acts as a switch between the wireless LAN (802.11a, b, or g) and the wired LAN (802.3). There are two types of APs: Thin and Fat. The newer Thin technology AP consists of a thin AP and an access controller (also known as a wireless controller). Only the time-critical functions are managed by the thin AP. The other features are managed by the access controller.

#### **APA**

Analog Public Access. Board allowing the connection of analog network lines (switched network) with CLIP functionality. That board, equipped with GSCLI boards (Ground Start), is compatible with the American public network.

#### **API**

Application Programming Interface

#### **ARI**

Access Right Identifier. System identification number (DECT feature).

#### **ARS**

Automatic Route Selection. A logic direction is a set of trunks used for a call with the following facilities: seeking out the optimal path for a call, using the least-cost operator or network; overflow management: enables a PCX to find a new route to make an outgoing call when there are no resources available in the initial trunk.

#### **ASN-1**

Abstract Syntax Notation 1. OSI language for describing data types independently of processor structures and technical representations.

#### **ATA**

Analog Trunk Access. Board for connecting analog network lines (switched network).

### **8.1.2 B**

#### **BACKGROUND MUSIC**

External device (e.g. radio tuner) that can broadcast music over the loudspeakers of idle terminals; broadcasting is stopped automatically if there is an incoming call to the terminal or if the user makes a call.

**BACP**

Bandwidth Allocation Control Protocol. Control protocol associated with BAP.

**BAP**

Bandwidth Allocation Protocol. PPP protocol that manages bandwidth by allocating it dynamically between two ports, i.e. between the two extremities of a point-to-point link.

**BOD**

Bandwidth On Demand. Service that allocates bandwidth automatically in response to traffic volume.

**BRA**

Basic Rate Access. Board for connecting T0 or DLT0 digital basic accesses; each access supports a data rate of 144 kbps, structured as 2 B-channels at 64 kbps for voice and data transmission, and 1 D-channel at 16 kbps for signaling.

**BTCO**

Build To Customer Order.

**8.1.3 C****CA**

Certificate Authority.

**CCP**

Compression Control Protocol.

**CHAP**

Challenge-Handshake Authentication Protocol. Security function supported on connections that use PPP encapsulation: prevents unauthorized access.

**CIFS**

Common Internet File System. This protocol is an extension to the SMB file sharing system. Its main benefit is to provide compatibility with locking operations and multiple SMB read/write operations.

**CLIP**

Calling Line Identification Presentation. Complementary service for digital protocols that allows the caller number to be presented to the called party.

**CLIR/COLR**

Calling/COnnected Line Identification Restriction. Service that inhibits CLIP or COLP.

**CNIP**

Calling Name Identification Presentation. Complementary service for private digital protocols (ISVPN or ABC-F) that allows the caller's name to be presented to the called party.

**COLP**

COnnected Line identification Presentation. Complementary service for digital protocols that allows the number of the connected user (the one who answers the call) to be presented to the caller.

**CONP**

COnnected Name identification Presentation. Complementary service for private digital protocols (ISVPN or ABC-F) that allows the name of the connected user (the one who answers the call) to be presented to the caller.

**CPU**

Central Processing Unit. Term designating the processor or microprocessor. The central processing unit executes computer program instructions.

**CSTA**

Computer Supported Telephony Application. ECMA standard that defines command exchanges between a PCX and a server.

**CTI**

Computer-Telephone Integration. Interaction mechanism between 2 sections, namely a data processing section (computer) and a telecommunications section (PCX), independently of the physical layout of the 2 sections.

**CTL**

Certificates Trust List.

#### 8.1.4 D

##### **DASS2**

Digital Access Signaling Specification number 2

##### **DDI**

Direct Dialing In. Direct external call number for the system terminals (depending on the configuration with the public network operator).

##### **DECT**

Digital Enhanced Cordless Telecommunication. European cordless telephony standard. DECT terminal: cordless terminal that complies with this standard.

##### **DHCP**

Dynamic Host Configuration Protocol. Protocol that manages IP address allocation dynamically so that addresses can be reassigned when no longer being used by LAN hosts.

##### **Direct RTP**

A feature which optimizes the RTP flow of VoIP in SIP, thus optimizing the number of VoIP CODEC resources.

##### **DISA**

Direct Inward Station Access. Services (Analog DISA and Transit DISA) enabling outside callers to dial a specific number giving direct access to the system.

##### **DLL**

Dynamic Link Library. Windows library linked dynamically to an application.

##### **DLT0**

Digital Line T0. Basic access configured with the QSIG protocol (= digital LIA).

##### **DLT2**

Digital Line T2. Private 2 MHz link in PRA mode (= digital ATL).

##### **DNS**

Domain Name Server. System used on the Internet for converting domain names or machine names into IP addresses. A domain name, unlike an IP address, is an easily memorized Internet address.

#### 8.1.5 E

##### **ECMA**

European Computer Manufacturers Association

##### **Entity**

In this PBX context, an Entity refers to a group of users.

##### **ETHERNET**

Local network (LAN) operating at 10 or 100 Mbps (10 base T or 100 base T) over a coaxial cable. Ethernet is similar to the IEEE 802.3-series standards.

#### 8.1.6 F

##### **FoIP**

Fax over IP. Refers to the message and data transmission from a G3 Fax using the Internet protocol (T38 or Fax over G711 with SIP).

##### **FTP**

File Transfer Protocol. Standard protocol for exchanging files between remote computers over the Internet.

##### **FTP/STP/UTP**

Foiled Twisted Pairs/Shielded Twisted Pairs/Unshielded Twisted Pairs. Types of connection cables to be used between an Alcatel-Lucent OmniPCX Office Communication Server and an external distribution panel.

**8.1.7 G****G.722**

ITU-T 7 kHz wideband speech codec based on sub-band adaptive differential pulse code modulation (SB-ADPCM) within a bit rate of 48, 56 or 64 kbit/s.

**GATEKEEPER**

Secure directory server

**GATEWAY**

Device connecting different networks

**GENERAL BELL**

If the operator is absent, internal and external calls to the operator are directed to an external signaling device that lets any authorized terminal take these calls.

**8.1.8 H****H.323**

ITU standard for multimedia communication (voice, video, data).

**H.450**

Additional services associated with H.323 version 2.

**HSL**

High Speed Link. Link between the basic module and a module expansion; requires an HSL daughter board to be fitted on the PowerCPU and PowerMEX boards.

**HTTP**

HyperText Transfer Protocol. Standard application protocol for exchanging files (text, images, audio, video, etc.) over the Internet.

**HTTPS**

Secure HyperText Transfer Protocol. Secure version of HTTP: encrypts and decrypts pages containing user requests as well as pages retrieved from a web server.

**8.1.9 I****IAP**

Internet Access Provider. See ISP.

**IBS**

Intelligent Base Station. There are 2 kinds of IBSs: one that can be installed indoors, one outdoors.

**ICMP**

Internet Control Message Protocol. Network protocol that provides error reports and information on the processing of IP packets.

**IMAP4**

Internet Message Access Protocol. A protocol of the same type as POP3, the difference being that the messages always stay on the ISP server, even after consultation. IMAP requires continuous access to the server while the messaging service is in use.

**IN**

Installation Number

**IP**

Internet Protocol. The main protocol supporting the Internet. IP governs the forwarding and transmission of data packets over supporting multivendor packet-switched networks.

**IPSec**

Internet Protocol Security. Standard taking network security into account. Protocol used in the implementation of VPNs, and for remote access by connection to a VPN.

**ISDN**

Integrated Services Digital Network. Standard for the transmission of digital data over telephone cables or other communication vectors.

**ISDN-EFM**

Integrated Services Digital Network- Emergency Forwarding Module. T0/S0 Forwarding Module.

**ISP**

Internet Service Provider. Internet Access Provider. A company that provides Internet access for individuals and companies, along with other services, such as web site construction and hosting.

**ISVPN**

Integrated Services Virtual Private Network. Protocol used in a private virtual digital network; it offers functions such as transfer optimization and the transmission of information such as the name, busy status or diversions.

**ISVPN+**

Includes metering information in addition to the usual ISVPN services.

**ITU**

International Telecommunications Union : global coordination body.

**IVPS**

Virtual card, embedded on the CPU board, supporting a voice mail application.

## 8.1.10 K

**KEY SYSTEM (mode)**

Dedicated terminal operating mode in which the terminal features as many resource keys (RSP) as there are network lines in the system.

## 8.1.11 L

**LAN**

Local Area Network. Network of interconnected switches, routers, and servers that share the resources of a processor or server in a relatively restricted geographical area, usually the premises of a company. In the context of the OmniPCX Office, the LAN includes an IP network and provides services to the wired client and to the WLAN client: file server, proxy, main server.

**LDAP**

Lightweight Directory Access Protocol for access to directory services managed by a directory server.

**LOUDSPEAKER**

External loudspeaker used for broadcasting messages.

## 8.1.12 M

**MANAGER/SECRETARY**

Set of specific services (profile, filtering, diversion) between a manager terminal and a secretary terminal.

**MIX**

Mixed equipment board: T0 accesses, analog and digital terminal connection interfaces.

**MLAA**

Multiple Automated Attendant: Software component used for automatic incoming calls routing via voice guides.

**MMC**

Man Machine Configuration. Command lines that a user types to the interface of an application to change the parameters of system elements. It can also be in the form of graphic images that the user can select to make changes.

**MPPP**

Multi-link PPP. A protocol that aggregates bandwidth from a number of links to obtain faster communication speeds.

**MULTILINE TERMINAL**

Terminal that has several lines for managing several calls at the same time.

**8.1.13 N****NAT**

Network Address Translation. A service that converts the IP address used on one network into another IP address recognizable by another network. Address translation allows companies to keep their own private IP addresses for internal purposes, while using just one IP address for external communication.

**NMC**

Network Management Center. Workstation allowing a communication server administrator to remotely manage, administer (storage of call metering tickets for example) and optimize one or more Alcatel-Lucent OmniPCX Office Communication Server systems.

**NMT**

Numbering Modification Table

**NNTP**

Network News Transfer Protocol. Protocol used by computers to handle messages created in Usenet forums.

**8.1.14 O****ODC**

On Demand Communication - Commercial name of On Demand mode.

**On Demand mode**

This licence mode introduces a "user" definition and the validity of the license in OPEN state is limited and daily checked by the system.

**OS**

Operator Station. Dedicated terminal for answering incoming calls from the public network.

**OMC**

OmniPCX Office Management Console (formerly PM5). A PC-based management and configuration tool.

**8.1.15 P****PAP**

Password Authentication Procedure. Procedure used by PPP servers to validate connection requests.

**PASSWORD**

Code acting as a password, controlling access to the voice mail unit and the terminal locking function.

**PAT**

Port Address Translation

**PCBT**

PC Based Telephony

**PCX (mode)**

Mode of operation of dedicated terminals; in this mode, all the network lines are materialized by general-purpose resource keys (RSB).

**PE**

Public Exchange. Public central terminal (switch).

**PLEASE WAIT MESSAGE**

An audio component of the system (or an external device, such as a cassette player) which plays a message or piece of music while keeping an external correspondent on hold.

**POP3**

Post Office Protocol. Standard Internet protocol for receiving electronic messages. POP3 is a client/server protocol in which the messages are received and hosted by the ISP. When a message is read, it is



transferred to the client terminal and is no longer hosted by the ISP.

**PowerMEX**

Module expansion. Controller board for extension or module expansion.

**PPP**

Point-to-Point Protocol. Protocol used in communication between two computers using a serial interface (typically a PC connected to a server via a telephone line).

**PRA**

Primary Rate Access. Board for connecting a T2 digital primary access; the access supports 48 kbps structured as 30 B-channels at 64 kbps for voice and data transmission, and 1 D-channel at 64 kbps for signaling.

**PROXY**

A proxy server is used as an interface between a user and the external Internet network.

**PSTN**

Public Switched Telephone Network.

**PTN(X)**

Private Telecommunications Network (eXchange). A private network consisting of switches and terminals connected together by telephone links.

**PWT**

Personal Wireless Telecommunications. Corresponds to the DECT standard for the North American countries (especially the US).

## **8.1.16 Q**

**QOS**

Quality Of Service. Network characteristics (transmission speed, etc.) can be measured, improved and, to some extent, guaranteed in advance.

**QSIG**

Q Signaling Protocol. Set of standard signaling protocols between the private PBXs of a telephone network (Q reference point) interconnected by digital ATLS.

## **8.1.17 R**

**RADIUS**

Remote Authentication Dial-In User Service. A client/server protocol that enables remote access servers to communicate with a central server in order to authenticate remote users before allowing them access to the systems or services they have requested.

**RAS**

Remote Access Server. Remote access server to the system LAN.

**RCE**

Rich Communication Edition (for example, OmniPCX Office RCE Compact is the short designation for Alcatel-Lucent OmniPCX Office Rich Communication Edition Compact).

**RGO, RGI, RGM**

General resource keys supporting local and/or external calls, whether outgoing (RGO), incoming (RGI), or mixed (RGM).

**RNIS**

"Réseau Numérique à Intégration de Services". French equivalent of ISDN.

**ROSE**

Remote Operations Service Element

**RSB**

Resource key dedicated to a trunk group (bundle); used for making external outgoing calls on a particular trunk group, and receiving all network calls.

**RSD**

Resource key for a particular destination; supports local calls for this number if assigned to a speed dial number, incoming calls for the number if assigned to a DDI number, or outgoing calls on a trunk group if assigned to a trunk group.

**RSL**

Resource key dedicated to a set; supports calls to and from a particular set.

**8.1.18 S****SATA**

Serial Advanced Technology Attachment - Hard disk interface bus.

**S0 BUS**

Type of connection for S0 digital terminals (passive short bus, long/short point-to-point bus, extended bus); S0 buses and terminals are connected up via an S0 option embedded in an Alcatel Reflexes terminal.

**SD Card**

Secure Digital card can provide the memory necessary for all features and functions on the PowerCPU.

**SELV**

Safety Extra Low Voltage. Classification of interfaces in accordance with standards EN60950 and IEC 950.

**SIP**

Session Initiation Protocol. A signaling protocol for Internet conferencing, telephony, events notification, and instant messaging. SIP initiates for example, call setup, routing and authentication within an IP domain.

**SLI**

Single Line Interface. Board allowing the connection of analog terminals (also known as Z terminals).

**SMB**

Server Message Block. File sharing protocol which enables a terminal to localize one or more files across the network, and then to open/read/edit/delete them.

**SMTP**

Simple Mail Transfer Protocol. Standard protocol used for sending and receiving mails.

**SPI**

Service Provider Interface

**SSH**

Secure Shell. A UNIX interface protocol for obtaining secure access to remote computers.

**SSID**

Service Set Identifier. In Wi-Fi wireless LAN computer networking, an SSID is a code attached to all packets on a wireless network to identify each packet as part of that network. The code consists of a maximum of 32 alphanumeric characters. All wireless devices attempting to communicate with each other must share the same SSID. Apart from identifying each packet, the SSID also serves to uniquely identify a group of wireless network devices used in a given "Service Set".

**SSL**

Secure Socket Layer. Encryption and authentication layer which ensures the authentication, integrity and privacy of the documents distributed by the World Wide Web.

**8.1.19 T****TAPI**

Telephony API (Application Programming Interface). Standard defined by Microsoft.

**TCP/IP**

Transmission Control Protocol/Internet Protocol. Standard protocol used on the Internet. TCP corresponds to the Transport layer (layer 4) of the OSI model. IP corresponds to the Network layer (layer 3) of the OSI model.

**TERMINAL GROUP**

Series of terminals grouped under the same directory number. Any call to that number is routed to a free terminal line.

**TFTP**

Trivial File Transfer Protocol. The simplest network application for transferring files.

**TL**

(Analog) Trunk Line connecting the system to the public switched network.

**TLS**

Transport Layer Security.

**TSAPI**

Telephony Services API. Standard defined by Novell, based on ECMA's CSTA standard.

**TSP**

Telephony Service Provider. TAPI driver used to access to telephony devices (modem, phone set, etc.).

**8.1.20 U**

**UAI**

Universal Alcatel Interface. Board used for connecting up digital terminals or DECT 4070 IO/EO base stations.

**UDA**

Universal Directory Access offering the possibility to use the company directory or an external LDAP directory when it exists to find a listed contact.

**UPS**

Uninterruptible Power Supply. Device increasing the system's backup time.

**URL**

Uniform Resource Locator. Address of a resource (file, program, image, etc.) accessible on the Internet.

**UUS**

User to User Signaling. Information carried clear end-to-end by ISDN to enable exchanges between network subscribers; the ISVPN protocol is contained within this information.

**8.1.21 V**

**VMU**

Voice Mail Unit. The integrated voice server provides a voice mailbox for each user, as well as a general voice mailbox and features such as Personal Assistant, Automatic Attendant and Audiotex.

**VoIP**

Voice over IP. Term designating voice transmission over a data network using the Internet protocol.

**VoWLAN**

Voice over WLAN. Term designating voice transmission over a data network using the WLAN.

**VPN**

Virtual Private Network. Private data network that uses the public telecommunications infrastructure (e.g. the Internet) while maintaining confidentiality by means of tunneling protocols and security procedures.

**8.1.22 W**

**WAN**

Wide Area Network. A geographically dispersed telecommunications network. The term WAN is used in contrast to LAN.

**WIFI**

Wireless Fidelity.

**WINS**

Windows Internet Naming Service. In Windows environment, the service that manages the correspondence between client station names and LAN locations relative to their IP addresses.

**WLAN**

Wireless Local Area Network. A LAN that provides networking using radio frequencies rather than wires for

communication.

**WLAN association**

An association refers to the connection between the WLAN client and the AP. There are two types of associations: passive scanning and active scanning. In passive scanning, APs send out information such as SSIDs and supported rates, while the client passively scans the radio channels for beacons and probe responses. The client then selects an AP. The client keeps scanning even after the association is made (to support roaming). In active scanning, clients send out probe requests. If the probe request contains an SSID, only the APs with the correct SSID will respond. If the probe request contains a broadcast, all the APs will respond.

**WLAN client**

Any PC, PDA, or phone set that supports the 802.11a and 802.11b/g protocols can be a WLAN client.

**WLAN handset**

A wireless terminal that is connected to the system through a wired Access Point (AP). The radio connection between the wireless terminal and the AP is specified by the 802.11 family of specifications. The WLAN handset range includes Alcatel-Lucent IP Touch 310/610 WLAN Handsets and Alcatel-Lucent OmniTouch 8118/8128 WLAN Handsets. WLAN handsets are sometimes referred to as MIPT (Mobile IP Touch) handsets.